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ABSTRACT

The document contains proceedings of the First All India Conference on Work for the Handicapped (Bombay, 1978) and presents 25 conference papers covering rehabilitation of all categories of handicaps. Section I includes a list of committees; list of participants; the conference program; inaugural, keynote, presidential, and valedictory addresses (by M. Desai, P. Chunder, S. Ali, and R. Varma, respectively); and resolutions. Section II presents the 25 papers, including the following titles and authors: "Role of Voluntary Agencies, Local Authority and Government in Changing Concept of Welfare of Handicapped" (T. Shastree); "Legislation for Comprehensive Rehabilitation of Handicapped" (J. Iyer); "Prevention and Early Detection of Blindness and the Role of Various Agencies" (D. Naik); "Social and Cultural Integration of Mentally Retarded" (P. Narayanan); "Need for Better Emphasis on Modern Technology in Education and Vocational Training of the Handicapped" (L. Advani); and "Challenges Posed in Economic Rehabilitation of Handicapped in Rural Setting in a Developing Economy" (B. Ghosh). (SB)

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FIRST ALL INDIA CONFERENCE ON WORK FOR THE HANDICAPPED

Bombay: January 14-17, 1978

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DECENNIAL CELEBRATIONS

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NATIONAL SOCIETY FOR EQUAL OPPORTUNITIES FOR THE HANDICAPPED

FIRST ALL INDIA CONFERENCE ON WORK FOR THE HANDICAPPED

HELD AT BIRLA KREEDA KENDRA,
CHOWPATTY, BOMBAY 400 007.

January 14—17, 1978.

Theme :
"TOTAL REVOLUTION : WHAT ABOUT THE HANDICAPPED"

Organised by :

National Society for Equal Opportunities for the Handicapped,
Chhatrapati Shivaji Maharaj Market,
Palton Road, Bombay 400 001.

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SECTION I

FOREWORD

In 1978, the National Society for Equal Opportunities for the Handicapped completed its first decade of service to the handicapped in India. As part of the decennial celebrations, the First All India Conference on Work for the Handicapped was convened in Bombay from January 14 to 17, 1978.

Bombay, which has led the rest of the country in supporting all noble causes, has led in the welfare of the handicapped also, founding many excellent institutions for the handicapped, some of which have celebrated their platinum and golden jubilees. The working of these institutions had prompted the establishment of the National Association for the Blind, the All India Federation for the Welfare of the Deaf, and the All India Federation for the Welfare of the Mentally Retarded, among others. These organisations, in turn, started consolidating and also co-ordinating among themselves the work of their respective disciplines in handicapped relief and rehabilitation.

The need for an organisation interested in the welfare of all disciplines of the handicapped — deaf, blind, mentally subnormal, orthopaedically handicapped, paraplegics, and those disabled by serious ailments like leprosy and cancer — prompted, in 1968, through a conference in Bombay on rehabilitation of the handicapped in general, the formation of the National Society for Equal Opportunities for the Handicapped (NASEOH). An all-India apex body, NASEOH, as the name indicates, seeks for the handicapped equal opportunities, and not preferential treatment at the cost of productivity. All its plans and projects are aimed at making the handicapped self-respecting and self-reliant. That is its goal, whether it is education or training for the handicapped, medical aid or financial assistance for them, or co-ordination among organisations for the handicapped. We have, even in the brief span of NASEOH's working, found the aim eminently practicable.

Having worked out numerous projects for the handicapped, in surveying and instruction training and placement,

public education and funding, and co-ordination and assistance to institutions, we decided on our tenth anniversary to hold the Conference on Work for the Handicapped to bring together social workers, planners, administrators and others involved in handicapped welfare. The Conference aim was to draw up a comprehensive National Policy and outline of projects to implement it.

Social thinkers of late were talking in terms of a 'Total Revolution', envisaging changes in the socio-economic structure, to bring under the new order social and economic justice to all. The Conference, seeking to focus the attention of thinkers, planners and administrators in the context of hadicapped welfare, therefore, chose the theme — "Total Revolution : What about the Handicapped ?"

The Conference drew up a comprehensive framework for the National Policy, which will determine the approach to and guide the programmes for the rehabilitation of handicapped in the next decade. The framework was drawn up on a full appraisal of the work done so far and the experience of the functionaries on the one hand and their assessment of the needs of the next decade on the other. There are certain problems common to all categories of handicapped, while certain difficulties are peculiar to a given category, say the blind or the deaf. The Conference discussed in detail different aspects of the problems of rehabilitation, in theory and practice, valuable insight being provided by the rehabilitation specialists, medical and paramedical experts, Government officials and representatives of international organisations concerned with the problems.

The four-day deliberations were divided into seven plenary sessions, which were open sessions where each aspect of rehabilitation was thrashed out, leading to common recommendations that covered all categories of the handicapped.

At the Workshops, specific issues pertaining to specific disciplines were analysed, suggesting lines of action needed. Each plenary session, presided over by a person who had thorough experience in the particular field, saw specialists read papers on different aspects of rehabilitation and prevention. A balanced general discussion followed, on the entire range of the subject, and rapporteurs summarised the conclusions. From the reports of the rapporteurs the chief rapporteur formulated the resolutions and presented these to the Resolutions Committee. The Committee's final draft was passed by the Conference.

Our purpose was to see that every policy element envisaged is approved by the functionaries in the light of their past experience as well as the demands of the situation,

calling for further action including preventive. To this end, the various sessions indicated the appropriate programmes of the next decade in that particular sector of rehabilitation. It should now be feasible for the authorities to easily put into formal shape a National Policy for rehabilitation of handicapped and launch the projects for the next decade.

NASEOH takes this opportunity to thank the delegates, official participants, all our colleagues, the members of various sub-committees, the Press and the staff. It is because of their whole-hearted co-operation this first All India Conference of the decennial celebrations was a great success.

Vijay Merchant

VIJAY MERCHANT
President

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Mrs. Tara Shastree	...	Chief Rapporteur & Hon. Secretary to the Resolutions Committee.
Mrs. Nama V. Bhat	...	Director of the Conference and Hon. Secretary to the Resolutions Committee.

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Mr. L. D. Trikha
Dr. Usha Bhatt
Dr. R. Ganapathi
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165.	—do—	Mrs. K. Merchant
166.	—do—	Mrs. George Rebecca
167.	—do—	Mrs. R. Sethi
168.	—do—	Mr. A. Harisinghani
169.	—do—	Mrs. R. S. Pant
170.	—do—	Mrs. Sambashivan
171.	—do—	Dr. B. P. Shah
172.	—do—	Dr. P. C. Shastri
173.	—do—	Mr. S. M. Dhannawat
174.	Hansraj Jivandas College of Education, Khar, Bombay.	Miss L. W. Sanzgiri
175.	International Council on Social Welfare, D. N. Road, Bombay.	Mr. S. D. Gokhale

176.	Karve Institute of Social Service, Karvenagar, Pune.	Mrs. L. R. Chaudhari
177.	—do—	Mrs. P. L. Pawar
178.	—do—	Miss M. M. Sathe
179.	—do—	Mrs. J. D. Ghatpande
180.	—do—	Mrs. J. V. Majumdar
181.	—do—	Mrs. H. J. Bhalerao
182.	Society for the Friends of the Handicapped, Jalgaon, Maharashtra.	Mr. D. M. Chendu
183.	—do—	Mr. R. P. Pande
184.	E.A.H. Centre, "Punam". 67 Napeansea Road, Bombay.	Mrs. A. Hudlikar
185.	—do—	Mr. Ramesh Oza
186.	Tata Dept. of Plastic Surgery, J. J. Hospital, Bombay.	Mrs. B. Joshan
187.	NASEOH, Chhatrapati Shivaji Maharaj Market Building, Bombay.	Mr. Vijay Merchant
188.	—do—	Mr. F. A. Fazelbhoy
189.	—do—	Mr. J. N. Guzder
190.	—do—	Dr. M. H. Keswani
191.	—do—	Mrs. Hansa Mehta
192.	—do—	Dr. S. K. Pandya
193.	—do—	Dr. (Miss) F. E. Marker
194.	—do—	Mrs. Nama V. Bhat
195.	—do—	Mrs. H. S. Pithawala
196.	—do—	Mr. S. B. Kowli
197.	—do—	Mr. C. V. Mehta
198.	—do—	Mrs. Mehru Gandhi
199	—do—	Mr. Vithal Mehta
200.	—do—	Mr. S. C. Ahuja
201.	—do—	Mr. R. Nanabhoy
202.	—do—	Mr. Vishnu S. Bhat

203.	NASEOH, Chhatrapati Shivaji Maharaj Market Building, 1st floor, Palton Road, Bombay.	Mr. B. H. Antia
204.	—do—	Mr. H. M. Lambay
205.	District Council for Welfare of Handicapped, Ferozpur City, Punjab.	Dr. Sadhu Chand Vinayak
206.	Postgraduate Institute of Education & Research, Chandigarh.	Mr. B. K. Aikat
207.	Apahaj Ashram, Jallundar, Punjab.	Mr. J. Agarwal
208.	Sheltered Workshop for Handicapped Persons, Ludhiyana, Punjab.	Mr. B. Singh
209.	—do—	Mr. Madanlal
210.	Home for Blind, Ferozpur City, Punjab.	Mr. Dharam Lal
211.	Nari Shillap Niketan and Bharatiya Mahila Sanstha, Ferozpur City, Punjab.	Mrs. S. Vinayek
212.	Pheroz & Moshir Merwanji Rehabilitation Centre for Blind, Mount Abu, Rajasthan.	Mr. Shaikh
213.	—do—	Mr. Thapa
214.	Salvation Army, C.B.H. Vocational Training Centre for Physically Handicapped, Aramboly, Tamil Nadu.	Mr. Albert
215.	WORTH, Tamil Nadu.	Mr. Antony Samy
216.	I.E.L.C. School for Deaf, Ambur, Dist. North Arcot, Tamil Nadu.	Mrs. M. A. Durairaj
217.	—do—	Mr. Govindrajalu
218.	—do—	Mr. A. P. Durairaj
219.	School for Blind, Palayamkottai, Tirunelveli, Tamil Nadu.	Miss D. Pushpam
220.	—do—	Mrs. G. Alamoo E. Jonatham
221.	—do—	Mr. E. Maduram

222.	Nettur Technical Training Foundation, Vellore, Tamil Nadu.	Mr. V. Krishnamurthy
223.	Lucknow School for Deaf, Uttar Pradesh.	Mr. U. C. Chaturvedi
224.	Kustha Sevashram, Azamgarh, Uttar Pradesh.	Mr. P. N. Tripathi
225.	Nanhi Dunhya School for Deaf, 18 Kalidas Road, Dehra Dun, Uttar Pradesh	Mr. V. Samson
226.	—do—	Mr. H. S. Bhandari
227.	National Centre for Blind, P.O. Raipur, Dist. Dehra Dun, Uttar Pradesh.	Mr. J. B. Agarwal
228.	—do—	Mr. R. C. Nijhawan
229.	Kashi Kusta Seva Sangh Ashram, Varanasi, U.P.	Mr. Das Pralhad
230.	Deaf & Dumb School, Faizabad.	Mr. K. S. Tiwari
231.	Rehabilitation India, 41/1A Palm Avenue, Calcutta, West Bengal.	Mr. B. Chakraborti
232.	Calcutta Deaf & Dumb School, 293 Acharya Prafulla Chandra Rd., Calcutta, West Bengal.	Mr. R. C. Sen

INDIVIDUAL DELEGATES

1.	Mr. V. Kadmivalu	Andhra Pradesh
2.	Mr. B. V. Parankusam	Andhra Pradesh
3.	Mrs. S. V. Arcot	Andhra Pradesh
4.	Mrs. S. P. Koratkar	Andhra Pradesh
5.	Mr. M. A. Zed	Assam
6.	Mr. G. C. Poddar	New Delhi
7.	Mr. N. Swarup	New Delhi
8.	Mr. V. Patel	Gujarat
9.	Mr. K. N. Patel	Gujarat
10.	Mr. K. J. Gandhi	Gujarat

11.	Mrs. I. K. Gandhi	Gujarat
12.	Mr. H. R. Joshi	Gujarat
13.	Mr. S. C. Parikh	Gujarat
14.	Mr. R. R. Desai	Gujarat
15.	Mrs. H. A. Patel	Gujarat
16.	Dr. K. Vasavda	Gujarat
17.	Mr. V. R. Dongre	Gujarat
18.	Miss J. Talati	Gujarat
19.	Mr. I. R. Nath	Himachal Pradesh
20.	Mr. E. E. D'Silva	Karnataka
21.	Mrs. S. S. Paranjape	Karnataka
22.	Mr. G. G. Naladurga	Karnataka
23.	Mr. Chikkamuniyappa Chenappa	Karnataka
24.	Mr. R. Pobbathi	Karnataka
25.	Mrs. Iyangar Padma Shrinivasa	Karnataka
26.	Mr. T. Ramachandran	Karnataka
27.	Mr. Atmaram Rao	Karnataka
28.	Mrs. Ratna Atmaram Rao	Karnataka
29.	Mrs. Veena S. Rao	Karnataka
30.	Mr. B. B. Shah	Madhya Pradesh
31.	Mr. S. L. Marathe	Madhya Pradesh
32.	Mr. M. M. Tiwari	Madhya Pradesh
33.	Mr. V. R. Deshpande	Maharashtra
34.	Miss Naseema Hurzuk	Maharashtra
35.	Dr. Manoo Japee	Maharashtra
36.	Mr. B. R. Pathan	Maharashtra
37.	Mrs. L. C. Karandikar	Maharashtra
38.	Dr. M. S. Advani	Maharashtra
39.	Mrs. K. G. Nagarkar	Maharashtra
40.	Mr. S. J. Doshi	Maharashtra
41.	Mrs. Leena D'Silva	Maharashtra
42.	Mr. D. D. Cyril	Maharashtra
43.	Mr. M. A. Katrak	Maharashtra

44.	Mr. K. G. Shetye	Maharashtra
45.	Miss M. D'Souza	Maharashtra
46.	Mr. K. P. Prasad	Maharashtra
47.	Mr. S. C. Ahuja	Maharashtra
48.	Mrs. S. B. Kakatkar	Maharashtra
49.	Mr. V. M. Shah	Maharashtra
50.	Miss A. Shriniwas	Maharashtra
51.	Miss A. Menezes	Maharashtra
52.	Mrs. P. G. Udeshi	Maharashtra
53.	Mr. G. B. Udeshi	Maharashtra
54.	Dr. S. G. Tatake	Maharashtra
55.	Mr. D. V. Kulkarni	Maharashtra
56.	Mr. A. J. Mehta	Maharashtra
57.	Mr. V. G. Parchure	Maharashtra
58.	Lion Ashok Maru	Maharashtra
59.	Mrs. L. A. Karim	Maharashtra
60.	Mr. M. K. Kansagra	Maharashtra
61.	Miss S. U. Canilor	Maharashtra
62.	Mrs. L. J. Sanghvi	Maharashtra
63.	Mrs. Mary Kutty James	Maharashtra
64.	Mr. B. C. Shah	Maharashtra
65.	Mrs. S. B. Shah	Maharashtra
66.	Mrs. B. N. Gupte	Maharashtra
67.	Mr. P. R. Surana	Maharashtra
68.	Mr. N. J. Balani	Maharashtra
69.	Dr. Sushma	Maharashtra
70.	Mrs. V. R. Rui	Maharashtra
71.	Sqn. Cdr. T. D. Mavilamani	Maharashtra
72.	Mr. Behram S. H. J. Rustomji	Maharashtra
73.	Mr. S. D. Dashpure	Maharashtra
74.	Mr. H. C. Kaushik	Maharashtra
75.	Mr. O. F. Athaide	Maharashtra
76.	Dr. (Miss) K. M. Gilder	Maharashtra

77.	Mr. N. B. Anklesaria	Maharashtra
78.	Mr. K. K. Citadbya	Punjab
79.	Mr. Raman Kumar	Punjab
80.	Mr. N. C. Bose	Tamil Nadu
81.	Miss Varadraj Amirtham	Tamil Nadu
82.	Mrs. Subbayyau Pankajakshi	Tamil Nadu
83.	Mr. E. R. Weesner	Tamil Nadu
84.	Mrs. Kamal Shakuntala	Uttar Pradesh
85.	Miss Malati Chatpur	Uttar Pradesh
86.	Miss Hodne Brit	West Bengal
87.	Miss D. K. Patel	...
88.	Miss S. Deshpande	...
89.	Mrs. J. Karkery	...
90.	Mr. G. B. Singh	New Delhi

GOVERNMENT REPRESENTATIVES

1. Mr. K. Kumar,
   Dy. Director,
   Directorate General of Employment & Training,
   New Delhi.
2. Mr. M. R. Gandhi,
   Employment Exchange for Physically Handicapped,
   Ahmedabad.
3. Mr. V. K. Tandon,
   Government School for the Blind, Deaf & Mute,
   Raipur.
4. Mr. N. J. B. Pinto,
   Special Employment Exchange
   for Physically Handicapped,
   Bombay.
5. Mr. D. L. Gujarkar,
   Government School for Blind,
   Nasik.
6. Mr. V. A. Shastri,
   Government School for Deaf & Dumb Children,
   Aurangabad.
7. Mrs. S. V. Talegaonkar,
   Government School for Deaf,
   Alibag.

8. Mr. B. S. Wankhede,
Government Sheltered Workshop for Deaf,
Mute and Crippled,
Nagpur.

9. Mrs. P. D. Tolay,
Government Home for Crippled Children,
Aurangabad.

10. Mr. H. S. Vaidya,
Government School for Blind,
Malvan.

11. Mr. S. M Parab,
Government School for Deaf & Dumb,
Akola.

12. Mr. A. M. Nakhate,
Government Multipurpose Group Complex
for Physically Handicapped Children.
Umedpur, Sholapur.

13. Mr. D. R Somwanshi,
Government School for Blind,
Latur, Osmanabad.

14. Mr. S. J. Londhe,
Government Sheltered Workshop,
Aurangabad.

15. Mr. S. T Wankhede,
Vocational Rehabilitation Centre
for Physically Handicapped,
Bombay.

16. Dr. W. G. Rama Rao,
Director,
All India Institute for Physical Medicine
& Rehabilitation,
Haji Ali, Bombay.

17. Mr. G. T. Matta,
All India Institute for Physical Medicine
& Rehabilitation,
Haji Ali, Bombay.

18. Mr. M. G. Pathak,
Deputy Director of Social Welfare,
Pune.

19. Miss Kusum Taskar,
Directorate of Social Welfare,
Pune.

20. Mr. S. D. Gupte,
Directorate of Employment,
Bombay.

21. Mr. A. R. Hakim,
Directorate of Employment,
Bombay.

22. Mr. S. M. Dhamorikar,
Sub-Regional Employment Officer,
Nagpur.

23. Mr. P. M. Khandekar,
Sub-Regional Employment Officer,
Aurangabad.

24. Mr. B. J. Taide,
Government Multipurpose Group
Complex for Physically Handicapped,
Ambejogai.

25. Mrs. Chakkuny Akyamma,
Director of Social Welfare,
Pune.

26. Mr. N. S. Bahulekar,
Sub-Regional Employment Exchange,
Pune.

27. Mr. S. S. Ingle,
Government Training Centre for Adult Deaf,
Ulhasnagar, Thane.

28. Mr. P. G. Pande,
Inspector of Physically Handicapped Institute,
Pune.

29. Smt. Devi Kalyani,
Government B.D.S. Deaf & Dumb School,
Gauhati.

30. Mrs. S. N Johnson,
Vocational Rehabilitation Training Centre,
Ludhiana.

31. Mr. E. M. Johnson,
Vocational Rehabilitation Training Centre,
Ludhiana.

32. Mr. P. Sagar,
Government School for Blind,
Gorakhpur.

OFFICIAL PARTICIPANTS

1. Mr. Lal Advani,
Special Officer (H),
Department of Social Welfare,
Government of India,
New Delhi.

2. Dr. L. P. Agarwal,
Adviser to Government of India,
Ministry of Health,
New Delhi.

3. Mrs. Nama V. Bhat,
Executive Secretary,
Naseoh, Bombay.

4. Mr. J. J. Choksey,
Dy. General Manager,
Dena Bank,
Bombay.

5. Capt. H. J. M. Desai,
Hon. Secretary General,
National Association for the Blind,
Bombay.

6. Dr. P. Diesh,
Regional Adviser,
Medical Care,
World Health Organisation.

7. Mrs. Afzel Frieze,
Specialist in Education of Mentally Retarded,
New Delhi.

8. Dr. R. Ganapati,
Director,
Bombay Leprosy Project,
Bombay.

9. Dr. Bimal Ghosh,
Regional Director,
International Labour Organisation.

10. Prof. M K. Goel,
Head of the Department of Orthopaedic Surgery,
Lucknow.

11. Dr. M. S. Gore,
Director,
Tata Institute of Social Sciences,
Bombay.

12. Dr. S. K. Guha,
Prof. & Head,
Centre for Biomedical Engineering,
All India Institute of Medical Sciences
and Indian Institute of Technology,
New Delhi.

13. Mr. Sadhan Gupta,
Ex-M.P. and President,
National Federation of the Blind,
New Delhi.

14. Mr. Gulam Hussain,
Director General of Employment & Training,
and Joint Secretary to Government of India,
New Delhi.

15. Mrs. Fatima Ismail,
President,
Fellowship of Physically Handicapped,
Bombay.

16. Mr. Justice V. R. Krishna Iyer,
Judge,
Supreme Court of India,
New Delhi.

17. Dr. D. J. Jussawala,
Hon. Secretary,
Indian Cancer Society,
Bombay.

18. Dr. M. H. Keswani,
Vice-President,
Naseoh, Bombay.

19. Miss Mandakini Khandekar,
Head,
Unit for Child & Youth Research,
Tata Institute of Social Sciences,
Bombay.

20. Mrs. Gladys Kothawala,
Vice-President,
Association for the Welfare of Mentally
Handicapped Persons,
Bombay.

21. Dr. P. J. Kolah,
In-Charge,
Detection Centre.
Indian Cancer Society,
Bombay.

22. Mr. Richard R. LecLair,
Deputy Director,
Rehabilitation Engineering Staff,
Office of Research & Evaluation,
U.S.A.

23. Dr. K. Madhavankutty,
Principal,
Medical College,
Trivandrum.

24. Dr. Shantilal J. Mehta,
Medical Director,
Jaslok Hospital and Jaslok Research Centre,
Bombay.

25. Mr. Vijay Merchant,
President,
Naseoh, Bombay.

26. Lt. Comdr. C. N. B. Menon (Retd.),
Administrative Manager,
3R Society,
Bombay.

27. Dr. D. S. Naik,
E.N.T. Surgeon,
Bombay.

28. Mr. Hiralal Narang,
Vice-Chairman,
Ostomy Association of India, Bombay, and
Director, International Ostomy Association.

29. Mr. P. Narayanan,
Director,
Bala Vihar,
Madras.

30. Mr. Ramesh Oza,
Director,
Education Audiology & Research Centre,
Bombay.

31. Dr. W. G. Ramarao,
Director,
All India Institute of Physical
Medicine & Rehabilitation,
Bombay.

32. Miss Surrendar Saini,
President,
All India Federation for the Deaf,
New Delhi.

33. Dr. T. K. Saksena,
Scientist,
National Physical Laboratory,
New Delhi.

34. Dr. B. Sankaran,
Chairman,
Artificial Limbs Mfg. Corpn. of India,
New Delhi.

35. Mrs. Tara Shastree
Dirctor,
Karve Institute of Social Services,
Pune.

36. Mr. Saran Singh,
Secretary,
Department of Social Welfare,
Government of India,
New Delhi.

37. Dr. M. K. Sinha,
Medical Officer,
Saldoha Leprosy Home and Hospital,
South Bihar.

38. Mr. L. D. Trikha,
Director
Training Centre for Adult Deaf,
Hyderabad.

39. Dr. V. P. Varma,
Lecturer in Philosophy,
University of Delhi.

40. Dr. M. M. Wagle,
Professor of Pediatrics (Retd.),
Grant Medical College,
Bombay.

41. Dr. Henri Viscardi Jr.,
Chairman,
U.S. President's Committee on Handicapped and
White House Conference on Handicapped
Individuals, and President,
Abilities Corporate.

FOREIGN DELEGATES

1. Mr. D. P. Dorosh,
Head of the Delegation,
Deputy Chairman of the Central Board
of the All-Russia Society for the Blind,
Novaja Plochad 14,
Moscow, U.S.S.R.

2. Mr. G. K. Zakharyan,
Chairman,
Central Board of the Armenian Society for the Blind,
All-Russia Society for the Blind,
Novaja Plochad 14,
Moscow, U.S.S.R.

3. Mrs. L. B. Tsesarskaya,
Interpreter,
Senior Officer,
Foreign Relations,
Deptt. of the All-Russia Society for the Blind,
Novaja Plochad 14,
Moscow, U.S.S.R.

4. Miss Shirley Watkinson,
P.O. Box 23534,
Joubert Park,
Transwaal 2044,
South Africa.

5. Mrs. Henri Viscardi,
C/o. Human Resources Centre,
Albertson,
Long Island,
N.Y. 11507/516-747-5400,
U.S.A.

PROGRAMME

Saturday, January 14, 1978

7-45 to 8-45 a.m.	REGISTRATION
9-00 to 10-10 a.m.	**INAUGURAL FUNCTION**
Welcome Address :	Mr. Vijay Merchant President, NASEOH.
Greetings from USA :	Dr. Henri Viscardi, Jr., Chairman, U.S. President's Committee on Handicapped and White House Conference on Handicapped Individuals, and President, Abilities Corporate.
Statement on Structure of the Conference :	Mrs. Nama V. Bhat, Director of the Conference and Executive Secreary of NASEOH.
Inauguration of the 10th Anniversary Celebrations & the All India Conference :	Mr. Morarji Desai, Prime Minister of India.
Release of 'Naseoh News' Special Number-cum-Souvenir :	Mr. Morarji Desai,
Inaugural Address :	Mr. Morarji Desai,
Key-Note Address :	Dr. P. C. Chunder, Minister for Education and Social Welfare, Government of India.
Presidential Address	Mr. Sadiq Ali, Governor of Maharashtra.
Vote of Thanks :	Mr. J. N. Guzder, Vice-President, NASEOH.
10-15 a.m. to 10-45 a.m.	COFFEE BREAK
10-45 a.m. to 12-45 p.m.	**PLENARY SESSION I** **Chairman :** Dr. M. S. Gore, Director, Tata Institute of Social Sciences, Bombay.

Paper No. 1

"Welfare and Concept of Total Revolution."

Mr. Lal Advani,
Special Officer (H),
Department of Social Welfare,
Government of India.

Paper No. 2

"Role of Voluntary Agencies, Local Authority and Government in Changing Concept of Welfare of Handicapped."

Mrs. Tara Shastree,
Director,
Karve Institute of Social Services
Pune.

12-45 to 2-30 p.m. LUNCH BREAK

2-30 to 4-00 p.m. **PLENARY SESSION II**

Chairman :

Mr. Saran Singh,
Secretary,
Department of Social Welfare,
Government of India.

Paper No. 1

"Need for National Policy for Rehabilitation of Handicapped."

Mr. Vijay Merchant,
President, NASEOH, and
Smt. Nama V. Bhat,
Executive Secretary, NASEOH.

Paper No. 2

"International Collaboration for Implementation of National Policy."

Dr. Henri Viscardi Jr.,
Chairman,
U.S. President's Committee on Handicapped and White House Conference on Handicapped Individuals, and President, Abilities Corporate.

Paper No. 3

"Legislation for Comprehensive Rehabilitation of Handicapped."

Mr. Justice V. R. Krishna Iyer,
Judge, Supreme Court of India,
New Delhi.

4-00 to 4-30 p.m. COFFEE BREAK

4-30 to 6-00 p.m. **PANEL DISCUSSION**

"Development of Research in Prevention, Education, Vocational Training and Economic Rehabilitation of Handicapped."

Moderator:

Miss Mandakini Khandekar,
Head, Unit for Child and Youth Research, Tata Institute of Social Sciences, Bombay.

6-30 to 8-00 p.m. RECEPTION BY THE LIONS CLUBS OF DISTRICT 323A

Sunday, January 15, 1978

9-00 to 10-30 a.m. **PLENARY SESSION III**

Chairman:

Dr. Shantilal J. Mehta,
Medical Director,
Jaslok Hospital and Jaslok Research Centre, Bombay.

"Elimination of Handicapping Conditions — the Role of Medical Men, Social Workers, and Agencies (local, national and international)."

Dr. P. Diesh,
Regional Adviser, Medical Care,
World Health Organisation.

10-30 to 11-00 a.m. COFFEE BREAK

11-00 a.m. to 12-30 p.m. **GROUP MEETINGS**

Workshop No. 1

"Prevention and Early Detection of Blindness and the Role of Various Agencies."

Dr. L. P. Agarwal,
Advisor to Government of India,
Ministry of Health,
New Delhi.

Workshop No. 2

"Prevention and Early Detection of Deafness and the Role of Various Agencies."

Dr. D. S. Naik,
E.N.T. Surgeon,
Bombay.

Workshop No. 3
"Prevention and Early Detection of Mental Retardation and the Role of Various Agencies."

Dr. M. M. Wagle,
Professor of Pediatrics (Retd.),
Grant Medical College,
Bombay.

Workshop No. 4
"Prevention and Early Detection of Conditions Producing Orthopaedic Handicaps and the Role of Various Agencies."

Dr. W. G. Ramarao,
Director,
All India Institute of Physical Medicine & Rehabilitation,
Bombay.

Workshop No. 5
"Prevention and Early Detection of Cancer and the Role of Various Agencies."

Dr. R. Ganapati,
Director,
Bombay Leprosy Project, Bombay.

Workshop No. 6
"Prevention and Early Detection of Leprosy and the Role of Various Agencies."

Dr. P. J. Kolah,
In-Charge, Detection Centre,
Indian Cancer Society, Bombay.

12-30 to 2-00 p.m. LUNCH BREAK

2-00 to 4-00 p.m. **PLENARY SESSION IV**

Chairman :

Mr. Sadhan Gupta,
Ex-M.P. and President,
National Federation of the Blind,
New Delhi.

"Social & Cultural Integration of Handicapped."

Paper No. 1
"Integration of Blind"

Dr. V. P. Varma,
Lecturer in Philosophy,
University of Delhi.

Paper No. 2
"Integration of Deaf."

Miss Surrendar Saini,
President, All India Federation for
the Deaf, New Delhi.

Paper No. 3
"Integration of Orthopaedically Handicapped."

Mr. Tapankumar Dhar,
Rehabilitation India, Calcutta.

Paper No. 4
"Integration of Mentally Retarded."

Mr. P. Narayanan,
Director,
Bala Vihar, Madras.

Paper No. 5
"Integration of Leprosy Arrested."

Dr. M. K. Sinha,
Medical Officer,
Saldoha Leprosy Home and
Hospital, South Bihar.

Paper No. 6
"Integration of Cancer Disabled."

Dr. D. J. Jussawala,
Hon. Secretary,
Indian Cancer Society, Bombay.

4-00 to 4-30 p.m. TEA BREAK

4-30 to 6-00 p.m. **PLENARY SESSION V**

Chairman :
Dr. K. Madhavankutty,
Principal,
Medical College, Trivandrum.

"Manufacture of Special Aids and
Appliances for the Handicapped."

Paper No. 1

Dr. B. Sankaran,
Chairman,
Artificial Limbs Mfg. Corpn.
of India New Delhi.

Paper No. 2

Mr. Richard R. LecLair,
Deputy Director,
Rehabilitation Engineering Staff,
Office of Research and Evaluation,
U.S. Government, U.S.A.

6-00 to 6-45 p.m. FILMS ON REHABILITATION OF HANDICAPPED

7-00 to 9-00 p.m. CULTURAL PROGRAMME

Monday, January 16, 1978

9-00 to 10-30 a.m. **PLENARY SESSION VI**

Chairman :

Dr. S. K. Guha,
Prof. & Head,
Centre for Biomedical Engineering,
All India Institute of Medical Sciences & Indian Institute of Technology, New Delhi.

"Need for Better Emphasis on Modern Technology in Education and Vocational Training of the Handicapped."

Mr. Lal Advani,
Special Officer (H),
Department of Social Welfare,
Government of India.

10-30 a.m. to 11-00 a.m. COFFEE BREARK

11-00 a.m. to 12-30 p.m. **GROUP MEETINGS**

Workshop No. 1

Chairman :

Dr. T. K. Saksena,
Scientist, National Physical Laboratory, New Delhi.

"Education and Vocational Training of the Blind Using Modern Technology."

Workshop No. 2

Chairman :

Mr. Ramesh Oza,
Director,
Education Audiology & Research Centre, Bombay.

"Education and Vocational Training of Deaf Using Modern Technology."

Workshop No. 3

Chairman :

Mrs. Afzel Frieze,
Specialist in Education of Mentally Retarded, New Delhi.

"Education and Vocational Training of Mentally Retarded Using Modern Technology."

Workshop No. 4

Chairman :

Mrs. Fatima Ismail,
President, Fellowship of Physically Handicapped, Bombay.

"Education and Vocational Training of Orthopaedically Handicapped Using Modern Technology."

Workshop No. 5

Chairman :

Lt. Comdr. C.N.B. Menon (Retd.),
Administrative Manager,
3R Society, Bombay.

"Education and Vocational Training of Leprosy Arrested Using Modern Technology."

Workshop No. 6

Chairman :

Mr. Hiralal Narang,
Vice-Chairman,
Ostomy Association of India, Bombay, and Director, International Ostomy Association,

"Education and Vocational Training of Cancer Disabled Using Modern Technology."

12-30 to 2-00 p.m. LUNCH BREAK

2-00 to 5-30 p.m. **INSTITUTIONAL VISITS**

Tuesday, January 17, 1978

9-00 to 10-30 a.m. **PLENARY SESSION VII**

Chairman :
Mr. Gulam Hussain,
Director General of Employment and Training, and Joint Secretary, to Government of India, Ministry of Labour, New Delhi.

"Challenges Posed in Economic Rehabilitation and Handicapped in Rural Setting in a Developing Economy."

Dr. Bimal Ghosh,
Regional Director,
International Labour Organisation.

10-30 to 11-00 a.m. COFFEE BREAK

11-00 to 12-30 p.m. **GROUP MEETINGS**

Workshop No. 1

Chairman :
Capt. H. J. M. Desai,
Hon. Secretary General,
National Association for the Blind, Bombay.

"Economic Rehabilitation of Rural Blind."

Workshop No. 2

Chairman :
Mr. L. D. Trikha,
Director,
Training Centre for Adult Deaf,
Hyderabad.

"Economic Rehabilitation of Rural Deaf."

Workshop No. 3

Chairman :
Mrs. Gladys Kothawala,
Vice-President,
Association for the Welfare of Mentally Handicapped Persons,
Bombay.

"Economic Rehabilitation of Rural Mentally Retarded."

Workshop No. 4

Chairman :

Prof. M. K. Goel,
Head of the Deptt. of Orthopaedic Surgery, Lucknow.

"Economic Rehabilitation of Rural Orthopaedically Handicapped."

Workshop No. 5

Chairman :

Dr. M. H. Keswani,
Vice-President,
NASEOH, Bombay.

"Economic Rehabilitation of Rural Leprosy Arrested."

Workshop No. 6

Chairman :

Mr. J. J. Choksey,
Dy. General Manager,
Dena Bank, Bombay.

"Economic Rehabilitation of Rural Cancer Disabled."

12-30 to 2-00 p.m.	LUNCH BREAK
2-00 to 4-00 p.m.	**PLENARY SESSION VIII**
	"Adoption of Resolutions."
4-00 to 4-30 p.m.	COFFEE BREAK
4-30 to 5-45 p.m.	**VALEDICTORY SESSION**

Welcome Address :

Mr. Vijay Merchant,
President, NASEOH,

Overview of the Conference :

Mrs. Nama V. Bhat,
Director of the Conference and Executive Secretary of NASEOH.

Valedictory Address :

Mr. Ravindra Varma
Minister for Labour & Employment, Government of India.

Floral Tributes :

Vote of Thanks :

Mr. F. A. Fazelbhoy,
Vice-President, NASEOH.

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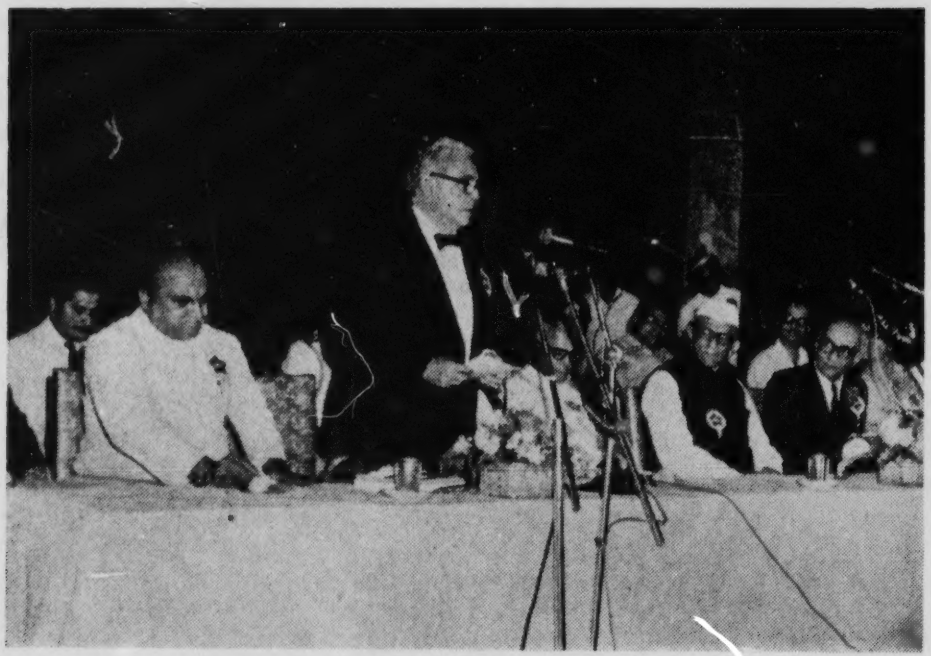
The Prime Minister, Mr. Morarji Desai, receives flowers from a blind girl, who is being assisted by Mrs. Hansa Mehta, Vice-President of NASEOH.



Dr. Henri Viscardi presenting the Conference the greetings of the USA.

Maharashtra Governor Sadiq Ali, with the 'NASEOH NEWS' Special number, released on the occasion by Prime Minister Morarji Desai.

Prime Minister Morarji Desai lighting the traditional lamp to mark the inauguration of the Conference. Picture shows (from left) Mrs. Hansa B. Mehta, Vice-President, Fund Raising Committee, Mr. Vijay Merchant, NASEOH President, Mrs. Sadiq Ali and Mrs. Nama V. Bhat, Director of the Conference.

Prime Minister Morarji Desai inaugurating the Conference.

Dr. P. C. Chunder, Minister for Education & Social Welfare, presenting the keynote address.

Mr. Sadiq Ali, Governor of Maharashtra, delivering the presidential address at the Conference.

A view of the delegates in rapt attention at the Conference.

INAUGURAL ADDRESS BY

MR. MORARJI DESAI

PRIME MINISTER OF INDIA.

When Vijaybhai (Mr. Vijay Merchant) asked me to attend this Conference, I readily agreed to it, because I consider in the looking after of handicapped people and enabling them to be as respected citizens as all others by the society. This work is very fundamental to all our plans. After all, our aim is to make the human society happy. And whatever the Government does, it does with a view to making every citizen lead a useful and happy life. Those who are handicapped on account of different reasons are considered handicapped because they are not able to utilise their capacity as the rest of the people are able to do; and, therefore, there is a tendency of neglecting them and not considering them as deserving more attention than normal people. And as long as there will be handicapped people — and there will be; I can't say there will not be, that does not depend on us, the world is not created by us; but we live in the world as part of it. That if I want to be happy, I cannot be happy unless I do all that I can to make others happy. This is the fundamental religion and, in my view, all religions have taught this as a fundamental basis for human uplift.

The handicapped are considered sometimes with pity by many people. I am afraid that is a wrong angle. We have no business to pity somebody else. You may better pity yourself. We must have equal respect for them, and regard for them, as we have for ourselves; otherwise, there is no difference between human beings and animals. It is, therefore, very vital to see that we enable the handicapped to have self-confidence and to look after themselves. And that can be done, I have no doubt.

I know of several institutions. When I was here (in Bombay), it was brought home to me much more graphically when Fatimaben (Mrs. Fatima Ismail) started her institution here; and such splendid work has been done by her and others in this field, in this city and other cities, that I do not know how I am to express my gratefulness to these pioneers, who are doing work without any expec-

tation or even recognition for what they do, because that is the kind of work that has to be done. And this requires to be encouraged more and more, and swiftly. And I have no doubt, this work can be easily looked after. And it is not money which will be lacking in this matter — money can come for any good cause. What is required is dedicated workers for this cause, because we require great sympathy and fellow-feeling. And that cannot be done unless we show sympathy for the handicapped, and thus enable them to get full self-confidence and be not an object of pity for anybody.

And better, the Government which represents the people and which is there to look what individuals cannot do, do on behalf of the whole society, things which are conducive to human happiness. And there cannot be a greater cause of service than service of the handicapped with a view to seeing that that they are put on par with all the other, able-bodied people. And it can be done. As a matter of fact, sometimes I have found that the handicapped are much better persons than those who are not, because they know what it means to be deprived of something which makes a person happy.

And it is therefore that we have got to take up this work more and more, so that every handicapped person is covered by instititional help. I hope and trust that the Governments will got out doing more and more for helping the institutions that are doing this work. But it is to be done more by non-official institutions and workers than it can be done by Government agencies. Non-officials do this work on behalf of the Government — that's how Government should understand.

Recently Government announced reservation of 3 per cent of Government and public sector jobs for the handicapped. Government ought to see that this percentage is fulfilled. But we have to see that they are enabled to do that work; and all appropriate work can always be given to the man who goes about it. I hope the State Governments will also take to it and see that it is done. I hope, therefore, NASEOH, which is doing this work on an All-India basis, sees to it that Government does not forget its duty.

Power is a dreadful thing. It is meant for service of the people. But, many a time it intoxicates the person who wields it. And, therefore, one has to save oneself when one is in power. And it is the people who can save them by keeping a check on them.

Your institution can, therefore do this work more self-

lessly, and, I hope, that you will go on doing your work with greater and greater vigour, and ensuring that Governments also do their duty properly in this direction. I can only say on my behalf that I shall do all that I can, and you will not find me wanting in this regard.

I have great pleasure in inaugurating this Conference with the full hope that, in a short period, we will be able to cover all the handicapped people in this country with proper help from institutions.

KEYNOTE ADDRESS BY

DR. P. C. CHUNDER

UNION MINISTER FOR EDUCATION & SOCIAL WELFARE

The very presence of our respected Prime Minister at this conference and his elaboration of the conference shows how important the conference is in our lives and our activities in our country. We have friends from foreign countries who have also addressed this occasion and it indicates the international concern for the work of the handicapped. Indeed, even the United Nations has recently recognised the importance of work for the handicapped at international level and some time ago there had been a Declaration of the Rights of the Disabled at the United Nations level and that international body has declared 1981 as the Year for the Disabled so that from now on all member states of the United Nations should strive to formulate policies so that the position of the disabled in the society might be good.

In our country the main problem is the problem of numbers. We have a huge number of disabled in our country and on a modest computation we find that the number of only the blind will be about nine million and if we take into account other types of disabled, it will be near about 10 per cent of our total population, and roughtly it will be about 6.1/2 crores by this time. Now, that itself would show how huge the problem is and I should certainly request this conference to think how we can attack this problem from all sides.

Indeed, there are many aspects of this problem which will have to be tackled. There is the problem of prevention of disability, and with the rapid expansion of modern medical science it is possible to prevent such disability where nature has not imposed such disability but due to our ignorance and negligence sometimes we take disability on ourselves; but that can be certainly prevented. Even where Nature has imposed such disability, it is also possible to cure such disability; where such disabilities can incurable, still, it is further possible, with the advancement of science and technology, to fill up the gap and supplement the deficiency. For instance, one who is physically

handicapped can be helped by providing artificial limbs for carrying out his day-to-day activities.

In fact, at the Government level, we are trying to impress one of our Indian Institute of Technology to take up that project to apply technology for the service of physically handicapped people. We are also trying to set up certain institutes for different types of disabled persons — for the blind, at Dehra Dun; for the physically handicapped, a labour institute at Calcutta. We propose to set up another institute at Hyderabad for the deaf and in similar ways, we are trying to help them. As has already been pointed out, with the blessings of the Prime Minister, the Government introduced job reservation of three per cent — 1 per cent for the blind, 1 per cent for the deaf and 1 per cent for the other disabled persons — in all Central Government services and nationalised undertakings run by the Central Government.

We have also approached the State Governments and I am glad to tell you that many State Governments have already reserved the services in like manner. I have also written letters to all the vice-chancellors of universities in this country for reservation of seats and provision of other facilities for the handicapped and I am very much enthused by the response I am getting from these vice-chancellors. They have also made a declaration in a large number of such universities.

But as you can see, this could touch only a fringe of the problem. We are deeply grateful to the various social welfare organisations which are doing splendid work in this field. We have here Mr. Vijay Merchant. In our younger days he was setting up new records in the field of cricket, but today he is setting up records in the field of service to the handicapped. He was revitalising Indian cricket in those days; today he is revitalising the work of the handicapped in our country. And we are all grateful to him, and he has a team of such dedicated workers along with him. Similarly, there are other groups in other parts of the country. Certainly, we are to help them. But as I told you, the number is so staggering that it is not possible for those dedicated band of people alone or even the Government to attack this problem.

I was just wondering, how do these handicapped people carry on? And I could feel that still they are by and large being sustained by their own families. Although we have still a good family system — the old family bonds still persists — but it is on the wane because of the change in our value system and also the advent of industrial civilisation in our country. But still we find many people

who are near and dear ones still look after their disabled people in the family. I have seen lots of such examples. At the same time, I know what sort of mental stress and strain and economic burden sometimes the members of the family have to bear.

Right to Survive

Now, I would like the conference to discuss that aspect — how to sustain the efforts of the members of the family in this behalf and supplement such work by larger efforts at the voluntary level by a large number of voluntary organisations in our country and ultimately such organisations to be backed by the efforts of the Government. I would like to place these in that order — family, society represented through these voluntary organisations, and finally, the Government representing the entire community in a democratic set-up. As the Prime Minister has very rightly pointed out, we ought not to look upon the disabled as an object of pity. That somehow debases the human personality.

In fact, international organisations today think that the concern for the disabled is a part of the extension of our concept of human rights. So these disabled people and handicapped people have a right to survive as full citizens of the world community as also of their own national community and for that purpose it will be our bounden duty to see that they acquire certain skills so that they become self-reliant, they learn some work through which they can earn their living and sometimes supplement their families' income.

Only yesterday I had the privilege of attending the Foundation Day ceremony of a school for blind girls in Delhi. And I was asking the organisers there : When these girls were given training, what will they do? And they told me that many of them do earn their living and they contribute to the family's income and they are taken back into the family. Of course, often, a family has selfish interest, no doubt; but they are taken back into the family as earning members. And because they are contributing to the family income, they are also respected in the family. That shows even if we have the handicaps, such handicaps can be cured and the handicapped people can become respected members of the family as well as of the community. I should think that is the objective. The Government of India is also striving its level best towards that end and I would only hope that this conference will come to certain specific proposals and which on completion will guide the Government in formulating its future for the welfare of the handicapped people.

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PRESIDENTIAL ADDRESS BY

MR. SADIQ ALI

GOVERNOR OF MAHARASHTRA

After the Prime Minister has spoken and our Minister for Education has given us the key Address, I believe the important aspects of the subject under discussion have been presented to you, and I don't think any regular speech from me is called for. I am here in the State of Maharashtra in this particular capacity for about eight or nine months now. In that capacity, I have had occasion to see a number of social institutions and social workers. I was agreeably impressed by the amount of work these various institutions are doing, and I also came across fine selfless social workers. I wanted to have a clear idea of the scale of the problem in Maharashtra and the work that is being organised on behalf of the handicapped by the Government as well as voluntary organisations.

I found, as you all know — and it is generally remarked — that Maharashtra is one of our progressive States, and indeed it is a progressive State, apart from any aspect, from the aspect of social work, especially. Of course, Dr. P. C. Chunder has told you about the problem, how many millions of our people are handicapped. And every year we make an addition of five lakhs or six lakhs to the people who are already handicapped. And in our voluntary organisations I found they were doing excellent work. And yet, what is the total number involved? Various categories of the handicapped — the blind, the deaf, the orthopaedically handicapped — the total number of persons served by these institutions and served by the State Government, it is a small proportion of the total number we have in the State. I don't have the figures of the whole country before me, so I will just give you all an idea of the situation in a progressive State like Maharashtra.

Now, schools for the blind. The State Government has so far established four residential schools for blind boys and girls, and their actual strength is 160 and the expenditure is around Rs. 4 lakhs. Voluntary organisations are maintaining 13 residential schools and the total number of inmates is about 800.

Now, schools for the deaf-mute. The Government is running three residential schools, the number of students is 140, the annual expenditure is about Rs. 3 lakhs. Voluntary organisations are maintaining 19 schools; the total number of beneficiaries is 961 and Government expenditure is around Rs 5 lakhs.

Now, schools for the orthopaedically handicapped. The Government schools are three in number; the total number of beneficiaries is 145 and the actual expenditure is around Rs. 5 lakhs. Voluntary institutions are running five schools, the total number of beneficiaries is 300.

Now, schools for the mentally retarded. Here, I am afraid, the Government does not run any schools, but voluntary organisations are maintaining seven schools. The total number of beneficiaries is 600 and the expenditure is about Rs. 2 lakhs.

The total number of beneficiaries of all schools is 3,075 and the total expenditure Rs. 30 lakhs.

Then we have industrial training centres and sheltered workshops for the adult handicapped. The Government has three training centres and there are 121 trainees in all. The training covers book-binding, smithy, carpentry, printing, composing, tailoring, etc. The annual expenditure is Rs. 4 to 5 lakhs. Now, the number of training centres run by voluntary organisations is 16, having a total of 1,167 beneficiaries, and their Government grant is is around Rs. 5 lakhs.

Then we have Government multi-purpose complexes for handicapped children — two centres. The total expenditure is around Rs. 1.55 lakhs and the total number of beneficiaries is 62.

The welfare of leprosy-affected persons is the responsibility of the Health Ministry, but for the rehabilitation part of the cured cases, the Social Welfare Department is assisting ten voluntary institutions. The expenditure is around Rs. 67 lakhs, for maintenance and rehabilitation of 1,100 cured cases.

Then we have the welfare of the aged and the infirm. Voluntary institutions are maintaining ten homes. The total number of beneficiaries is 400 and the expenditure is around Rs. 2 lakhs.

We have scheme for award of scholarships. Since the inception of the scheme in 1950-60, scholarships have been given to 5,000 physically-handicapped people. The annual expenditure is Rs. 2 to 3 lakhs.

Staff training

Then we have the supply of artificial limbs. The number of beneficiaries is about 1,000 persons. About 250 persons have been helped to achieve self-employment

since the inception of the scheme in 1970 and the annual expenditure is about Rs. 28,000.

Then we have training of the staff. So far, 80 teachers have been trained. The annual expenditure on them is about Rs. 20,000.

The total amount of annual expenditure on all schools comes to Rs. 55 lakhs. The total number of beneficiaries of all categories, including holders of scholarships, is 8,730. Thus the number of people the State Government as well as the voluntary organisations are able to assist is around 9,000. Now, what is the total number of handicapped in our province? Though we do not have accurate statistics, roughly the number of blind is 1,40,000; deaf-mute 1,40,000, orthopaedically-handicapped 1,40,000; Total 4,60,000. So we see the scale of the problem: what we have done is good but what remains is immense.

And these figures also emphasise the greater suitability of voluntary organisations. There are far more voluntary organisations in the State than there are Government-run institutions. I suppose that is the picture in most parts of the country. Ours is one of the progressive States, and there is a great deal of interest in social work. The Government is sympathetic and we have plenty of good social workers and good social organisations; and yet we have been able to touch only the fringe of the problem. So this gives us an idea of the dimensions of the problem that we face.

We have talked of total revolution. We might use that word 'revolution'; but democracy itself is a total revolution. Democracy, if it is properly understood and properly practised is 'total revolution' revolution in all spheres of life. And democracy means that every man and woman, whether he is normal or handicapped, is entitled to all rights — life, liberty and happiness. And we have found that a handicapped person under modern advance in science and technology has established the fact that he need not remain handicapped all his life. The handicap, if not removed, can be greatly mitigated.

So far as the philosophy is concerned, our Prime Minister has already given us the philosophy behind what the Government should do for the handicapped, what democracy means, what happiness means. And our Minister for Social Education has given us a few important details of the problem that faces us. So it is good that this institution is trying to combine to develop as an apex body of all the voluntary organisations in the field. And I have no doubt that with the kind of leadership the institutions have, you will be able to make consistent progress in this very important and vital field of social and economic reconstruction in our country.

VALEDICTORY ADDRESS BY

MR. RAVINDRA VARMA

UNION LABOUR MINISTER

I am indeed very happy that I have an opportunity to be present here with you at the Valedictory Session of this Conference. I am very grateful to you, Mr. Merchant, for giving me this opportunity, as well as for the very kind words that you spoke. I have not been a Minister for long enough not to feel embarrassed by such encomium as you chose to bestow on me. I have come to this conference not only because of the invitation that I received from such a distinguished personality as you, Mr. Merchant, but also because I believe that the problems and the cause of the handicapped in this country are problems that should receive utmost attention from the Government.

I was somewhat agreeably surprised at the theme that you have chosen for this conference a theme — need for a Total Revolution. I am entirely in agreement with you that what is most necessary in this field is a radical transformation of the outlook of people. Unless the very basic responses are consistent with the nature as wel as the magnitude of the problem, it is impossible for anyone to expect the current of action that is called for in this field, whether it be from the governmental agency or from voluntary agencies. If at all there was a field, there is a field, in which there is need for a radical transformation of outlook, a total revolution in the attitudes of people, to ensure the success of the efforts that are highly necessary, it is in this field. I think the days are over when one could look at this problem with an air of patronisation or of charity or of philanthrophy. The world has advanced and we today live in an age where science and technology and the broadening of the outlooks and horizons of people and their visions have made it incumbent on us to look at these problems with a much greater sense of realism and with a much greater understanding of the guilt that it has thrust on lingering in the prejudices and inhibitions and superstitions of the past. Today no one can be forgiven if he is incapable of thinking in terms of the future and the present. In this field, therefore, it is necessary for all agen-

cies and individuals, whether they are governmental or voluntary agencies, to deal with the problems of the field with a sense of realism, optimism and thoroughness.

I am, therefore, very happy to see that the distinguished delegates who have assembled from 15 States of this country and deliberated on various aspects of this question for the last few days covered a very comprehensive canvas. I see from the papers that I received that you have dealt with the problems of identification of disability, the ways of preventing the entrenchment of disability and the ingratiaton of a disability complex in the individual concerned, the need for and the ways of cure or removal of disability, and there is a limit imposed by the current level of achievements of mankind, in asmuch as one can achieve, in the removal of disability, in amelioration of disability, in identifying the skills that are latent and often ignored in those who are dubbed as disabled in a comprehensive label, the need for training, the kinds of ways that can contribute to efficiency in this training, and the problems of emolovment and placement in employment. It is a very comprehensive canvas that you have covered in the course of your deliberations. And I can tell you straightaway that we will be most anxious and keen to study the conclusions and suggestions that have come out of these deliberations of such a distinquished body of ladies and gentlemen with experience in this field.

Today, I believe that governments and individuals have to look at this problem, as was indicated by the Director of the Conference, from the point of view of the total mobilisation of the resources of the society as well as the total commitment of modern society to the conception of providing opportunity for the discovery, the development, the enrichment and the expression of the personality of the individual. To my mind, these are two of the main parameters within which we have to survey and tackle this problem: one, as I said earlier, is work indicated by the needs of our commitments to the concept of the evolution and expression of the personality of the individual who is a member of the society; and the other is the total mobilisation of the resources — human resources, resources in skill, in talent, in ability — of the society.

Modern science and technology have made modern means and methods. Skills in various fields like medicine and what not have made it possible for us to eliminate the difficulties that are imposed, the disabilities that are imposed, on people, either because of acquired reasons, accidental reasons, or because of reasons that are congenital. It is possible today to provide everyone with forms and methods of acquiring knowledge and skill, methods for the utilisation of one's knowledge, of increasing and

discovering, let me say, and increasing one's ability to employ one's talents for the expression of one's own personality as well as for contributing to the totality of the processes that constitute the **summum bonum** of existence in society — participation in productive processes in art and craft and everything that in their totality make society and society's life what they are. When you look at the problem from this point of view, it becomes apparent to us that the success that we have achieved in this field, either in liberating the individual who is subjected to disability or in ensuring the society maximise the benefit (the potential benefit) is very meagre. The progress that we have achieved is nothing about which we can be proud of.

When I say this, I am not talking only of the magnitude of the problem in a country like ours. We are a people who are proud of everything that we have — our heritage, our history, the size of our country, the diversity in our country and even the percentages of people living below the poverty line, in everything we are not behind anyone! It hurts our national ego perhaps and, therefore, we hug some of the disabilities because even there we do not want to be behind anyone!

Magnitude

The magnitude of the problem has been indicated by the director summing up the deliberations that you had. One of the major problems is that we, in fact, have no quantification of the magnitude of this problem. We are told that there are 12 million disabled people in this country — 5 million blind, 5 million orthopaedically handicapped and 2 million deaf and dumb. But these are inadequate figures. Therefore, I am very happy that one of the recommendations of this conference is that in the 1981 census there must be full attention given to their identification and location. I think it is a very substantial and concrete contribution that this conference has made in the realm of identification.

Now, in this country, again, as I found in one of your papers, we have to bear in mind that 70 to 80 per cent of our population lives in rural areas, and therefore the handicapped too. It is very easy to think only of our urban areas which live in the glow of fluorescent lighting — provided the State Electricity Boards have allowed them to function and the lights are not switched off! But if we want to tackle this problem in the rural areas, then it needs a radical reorientation again in our outlook, in our methods of functioning. Who wants to go to the rural areas to identify or to remove disability? The exodus is from the rural areas to the urban areas and not from the urban areas to the rural areas.

Now, if we want to identify, locate, people who are handicapped, provide them with skills and training and create opportunities for self-employment or employment by others, in the rural sector, it is a very colossal problem because the consequent problem of location of training centres or vocational training centres and the kind of diffused efforts that have to be made in so many hundreds of thousands of villages to locate, totrain, to employ, to provide opportunities for self-employment. And if Mr. Vijay Merchant or people like him and all of you can launch a drive for this in the country, I can assure you, that the Government will fully back any such effort that you make.

And in fact if anyone thinks that a campaign of this magnitude can be undertaken by, only by, the Government and its employees — even granting that they don't go on strike — it will be a foolish idea on anybody's part to pin one's hopes to such a thing. Such a colossal effort in a country of our dimension can succeed only if there is a massive campaign spearheaded by voluntary agencies, of course, supported by the Government. Therefore, I understand the import of the efforts that a conference of this kind makes in this direction.

As far as vocational rehabilitation is concerned, I think you had a presentation from the Regional Director of the I.L.O. I am not sure what he said and what he did not say, but I would be surprised if he has not referred to the I.L.O.'s recommendation on vocational rehabilitation — he must have done so, that is what I hear. Now it shows clearly that there must be close co-operation with employers' and workers' organisations to promote maximum opportunities for disabled persons to secure and retain suitable employment. I think that the words that have been used in this recommendation have been well so, in that the problem is not only one of securing employment, creating conditions for employability and increasing skills and constantly upgrading skills, but it is also a problem of retaining suitable employment in the atmosphere, the context, the environment, in which the disabled persons have to work.

I do not think I should take your time by going into these problems in detail. I am sure Mr. Merchant, who is a veteran of many Tests and distinguished captain of this country, does not expect the number eleven to bat for long. In fact I am frequently looking at him to see whether he is showing signs of restlessness from the pavilion on my delaying the declaration of his innings! So, I shall not take here much of his time. But I will take care to point out that the rehabilitation has to cover evaluation, including medical diagnosis and cure and amelioration. It has to cover counselling, guidance and training. It is often pointed out that it is necessary to have a kind of labora-

tory condition, a sheltered workshop, in which the disabled person who has acquired certain skills and confidence can employ these skills and acquire the confidence necessary for exposure to an environment which always is not as understanding and as congenial as it should be.

In our country, again, if we want to think of the rural areas, we cannot think purely of employment provided by others. You may talk of the agricultural sector, co-operation, agro-based industries, and whatever you want to talk about; but, unless, even as in the general case of employment, we can think in terms of maximising opportunities for self-employment even to the handicapped and the disabled, I wonder whether in the rural sector we will be able to make much headway. In all these, as I pointed out earlier, we will need training centres — and a network of training centres, mobile training centres, perhaps.

Employment

Apart fmor self-employment and employment in rural areas there is a problem of finding employment nnd placement in urban areas as well. The experience of our employment exchanges in this regard is far from satisfactory. The Director-General of Employment and Training is present here. Perhaps, he has spoken to you on the question. At the moment, the Government has 16 special employment exchanges to deal with the placement of handicapped persons. But I think this is nothing, compared to the size of the problem and even a multiplication of the number of special exchanges by itself will not help us to tackle this problem effectively.

You are well aware that of late an effort has been made to reserve a certain percentage of employment, especially in the 'C' and 'D' categories of posts, in the Central Government services and in comparable posts in the public sector undertakings. Three per cent has been reserved, but here again you sense the problem that 3 per cent in Government services and public sector undertakings is grossly inadequate if we want to provide opportunities for even a fair percentage of the handicapped who cultivate the skills necessary to function. State Governments and private sector undertakings will, therefore, have to think of what they can do in this field.

I am very happy to see the recommendations that have been made in your resolution — 19 recommendations I am glad not 20 points — you stop one short of the score mark, but 5 think this adds to your credibility at least to acceptability today.) I was very glad to see the 19 points. I think they show that you have given very clear and specific thought to the kind of action that can be taken. I shall certainly study all those points that you have put down

Mr. Ravindra Varma, Minister for Labour, being received by NASEOH President Vijay Merchant and Vice-President F. A. Fazelbhoy.

NASEOH President Vijay Merchant presents a bouquet to Mr. Ravindra Varma, Minister for Labour, at the Valedictory Session.

Bombay's Mayor, Mr. Murli Deora, presenting a memento to Dr. Henri Viscardi at a civic reception accorded to the delegates.

Mr. G. B. Singh, RSA Specialist, US Consulate, Mr. Richard Leclair, Mrs. Lucille Viscardi and Dr. Henri Viscardi at the civic reception.

in your resolution and I can assure you that I will make a special effort while I hold charge of this portfolio — and you know that all beings are mortal : ministers are mortal in their ministerial responsibilities — I shall do my best while I hold charge of this responsibility to give special attention to the problem of employment of the handicapped.

I am very grateful to you for giving me this opportunity to be present with you this evening and I am sure that the deliberations of this conference are onlly the prelude to a massive campaign that you will lunch in favour of the handicapped people of our country.

RESOLUTIONS ADOPTED AT
FIRST ALL INDIA CONFERENCE ON WORK FOR THE HANDICAPPED

Held in Bombay

from January 14 to January 17, 1978.

General Resolutions

This conference recommends :

(1) That the Government of India and State Governments, in collaboration with NASEOH, make it possible to apply the Gandhian concept of trusteeship, particularly in developing comprehensive rural rehabilitation services.

(2) That special attention be paid by the Government of India, State Governments, local authorities including Zilla Parishads to the problems of handicapped, girls and women.

(3) That the Government of India, State Governments, Public Sector Corporations, nationalised banks and local authorities take immediate steps to generate employment, on a massive scale, for all categories of the handicapped.

(4) That, in the decade to come, all programmes and projects shall concentrate on training the handicapped in relation to the industrial and commercial developments, and on employment of the handicapped on top priority basis.

(5) That all common causes leading to disabilities be identified and early remedial and corrective action be taken by the Government of India, State Government and local authorities to eliminate such causes, and to minimise the incidence of disabilities.

(6) That in evolving policies, programmes and services, the aspirations and hopes of the handicapped regarding education, training, employment

and talent development opportunities be given the fullest weightage.

(7) That, in consultation with NASEOH, the district planning and development councils, in cooperation with the Bureau of Economics and Statistics in all States, conduct surveys of common causes leading to different disabilities and collect data required for tackling problems of the handicapped.

(8) That, in view of the higher expenditure incurred in the education and training of the handicapped, grants-in-aid to all institutions and associations for the handicapped throughout India be given uniformly by the concerned State Governments and local authorities **on the basis of cent per cent of the expenditure.**

(9a) That regular, compulsory medical inspections be conducted, by the Education Departments of the State Governments and local authorities, of all children attending preschools, balwadies, and primary and high schools.

(b) That Schools be required to maintain medical records of all children from the date of admission to the date of leaving school, to be inspected by the Departments of Education.

(c) That the Departments of Education and local authorities ensure that remedial treatment as prescribed is given to the child concerned by the school authorities.

(d) That to prevent malnutrition leading to crippling handicaps, the Government of India, State Governments and local authorities undertake where necessary, in co-operation with the W.H.O. programmes for the administration of Vitamin 'A' doses and in co-operation with the UNICEF and other agencies, appropriate feeling programmes from prenatal stage to school age stage of child development.

(10a) That where special employment exchanges for the handicapped are not yet established, the Government should ensure that the employment exchanges in different parts of the country assist the handicapped in securing suitable and gainful employment, and

(b) That the State Government concerned, during unemployment period, provide adequate living allowance to the handicapped registered with an employment exchange.

(11) That the Government of India, State Governments and local authorities should ensure in collaboration with NASEOH and recognised national organisations for other disabilities, that the National and Regional Councils of Sports for the Handicapped are established at the earliest with necessary financial assistance and should regularly conduct sports meets for them at different levels.

(12) That all institutions and associations working for the handicapped be provided with necessary coaching facilities to ensure their participation in sports and other recreational activities, for which financial assistance be given by the Government of India, State Governments and local authorities.

(13) That the Government of India, the State Governments and local authorities should establish "Arts Councils" at different levels, with necessary financial assistance, to promote and develop arts, dramatics and other talents amongst the handicapped.

(14) That driving licences be issued to the handicapped who knew driving, including the deaf, as is being done in other countries, and

(15) That the Government give concessions in the price of petrol and oil used in vehicles or institutions for the handicapped.

Welfare and Concept of Total Revolution

This conference recommends :

(16) That at the Government and voluntary agencies' levels, the principle of equal economic and other opportunities for the handicapped be fully accepted.

(17) That, with the help of voluntary agencies and other organisations involved, the recommendations of the Conference be propagated and given the widest possible publicity by the Government machinery of mass media.

(18) That all possible steps be taken to make programmes, projects and services for the handicapped more and more client-oriented.

(19) That all possible steps be taken by the concerned Government Departments, local authorities and voluntary agencies for educating parents and family members of the handicapped and the com-

munity regarding the developmental needs of the handicapped.

(20) That the fullest possible use be made of the community resources and that all institutions in the community be continuously educated for better acceptance of the handicapped and for promoting their total rehabilitation.

(21) That every endeavour be made by the Government of India, State Governments, Central Social Welfare Board, etc. to open avenues of education training, employment and social integration of the handicapped in rural areas.

(22) That while the Union Government's decision for reservation of posts in Class III and Class IV categories for the handicapped is welcome, steps need be taken by the Union and State Governments for statutorily ensuring reservation of posts for the handicapped belonging to every category, including the mentally retarded, cancer affilicted and leprosy arrested and the Union and State Governments should also reserve posts in Class I and Class II for suitably qualified and experienced persons, and

(23) That the Government of India should appoint a Committee, in consultation with NASEOH, to define all handicaps, on the lines of definitions accepted by the Special Agencies of the United Nations and to fully specify the degrees of disabilities at the earliest.

Role of voluntary agencies, local authority and government in changing concept of welfare of the handicapped.

This conference recommends :

(24) That, with a view to achieving better co-ordination avoiding duplicating of activities, eliminating the growth of mushroom organisations leading to wastage of resources and with a view to ensuring the early and effective implementation of the recommendations of this conference, the NASEOH should establish a co-ordination committee, with representatives of recognised national organisations of each of the disabilities.

(25) That the Government of India and State Government should recognise NASEOH as a consultative body, co-opt NASEOH on Working Groups set up by the Planning Commission and other

Union and State Ministries, etc. on policies and programmes for the handicapped and necessary funds be allotted to it on planned basis for co-ordinating the work of the various organisations working for the handicapped.

(26) That voluntary organisations working in the field of the handicapped should be recognised by Government and that the organisations should engage as far as possible, on their staff suitably qualified and experienced handicapped persons.

(27) That there should be a Rehabilitation Centre in every district and, where possible, sub-centres in the rural areas to enable the handicapped of the surrounding areas to take advantage of such facilities.

(28) That all voluntary agencies should develop their work on professional lines, following modern management techniques and engage more and more professionally and technically qualified personnel.

(29) That all rehabilitation centres be well equipped so that they can tackle the problems of rehabilitation effectively.

(30) That all handicapped categories be given, on a uniform basis, railway concessions and concessions for travel by all other modes of transport, and

(31) That all State Governments should make provision to give liberal life-long pensions to the disabled, on recommendation of NASEOH or recognised national organisations of other disabilities.

Need for Development of National Policy for Rehabilitation of Handicapped

This conference recommends :

(32) That immediate steps be taken to evolve and to implement, on top priority basis and on a war footing, a National Policy and a National Plan of Action for the Rehabilitation of the Handicapped and to do everything possible to promote the physical, social and mental health of the nation.

(33) That funds be liberally made available in the Union and the State Plans and annual budgets for the purpose of adequately tackling this gigantic problem.

(34) That there should be a national debate, leading to a national consensus, creating an awareness on the problems of the handicapped.

(35) That there should be a high level dialogue between Parliamentarians, legislators, administrators, social reformers and workers in the field and the handicapped themselves for evolving a National Plan of Action.

(36) That the above steps should lead to the formulation of a National Plan of Action embracing all aspects pertaining to the medical, educational, vocational economic and social rehabilitation of the handicapped.

(37) That, by an Act of Parliament, the State should accept full responsibility for the medical, educational, vocational, economic and social rehabilitation of the handicapped.

(38) That the financial responsibility of looking after the rehabilitation of the handicapped should be fully accepted by the Union, and State Governments and by the district local authorities.

(39) That the medical, educational, vocational, economic and social rehabilitation of the handicapped be statutorily made the responsibility of Zilla Parishads, the municipal corporations and the district local authorities to enable the delivery system to reach the farthest corners of our country.

(40) That the Union Government should, at the earliest opportunity, appoint a high level Commission for the Handicapped, in consultation with NASEOH, to review the problems pertaining to the medical, educational, vocational, economic and social rehabilitation of the handicapped and promoting their welfare and to make necessary recommendations to improve their socio-economic status.

(41) That separate Directorates of Rehabilitation of the Handicapped be created at the Union and State levels with self-contained cells for each of the handicapped categories.

(42) That such Directorates of Rehabilitation be entrusted with full responsibility for the educational, vocational, economic and social rehabilitation of all categories of the handicapped.

(43) That all voluntary agencies in the field of the handicapped should play the role of catalysts and

start new programmes and projects for developing progressive rehabilitation services for the handicapped and redouble their existing activities.

(44) That outstanding handicapped individuals be involved at the very stage of policy formulation at all levels including Local Bodies, State Assemblies and Parliament and at the level of national and other voluntary organisations, (on the recommendation of NASEOH) or other recognised national organisations of the disabled.

Legislation for Comprehensive Rehabilitation of Handicapped

This conference recommends :

(45) That legislation for the comprehensive rehabilitation of the handicapped be enacted to provide for equality of status and opportunities, assuring the dignity of the handicapped individuals in all walks of life, including social and cultural spheres.

(46) That comprehensive social security system be evolved to ensure liberal state assistance to the handicapped who cannot earn full economic living independently.

(47) That till the regular enactment of legislation for comprehensive rehabilitation of the handicapped, para-legislative measures be introduced by the Government of India and the State Governments to meet the needs and aspirations of the handicapped.

(48) That a committee be setup to review the outdated legislation related to payment of compensation to the injured and necessary modifications be brought about to protect the interest of the injured and compensate them for the consequential handicap, and

(49) That re-employment of the injured and the disabled be made obligatory on the industry/commercial establishment / Government or the local authority.

International Collaboration for Implementation of National Policy

This conference recommends :

(50) That Government should seek collaboration of international organisations for development of an **"Industry-Labour Council"** for fostering positive

attitudes to industrial relations accommodation, recruitment, and employee benefits.

(51) That international collaboration be sought for

(a) screening, diagnosis and treatment programmes on a massive scale,

(b) teaching of life-saving skills and development of proper emergency systems, ensuring their effective use,

(c) provision for financial assistance to educate professionals, health care providers and multipurpose health-workers and also for conducting campaigns to build up awareness regarding proper safety measures and prevention of accidents,

(d) identification and treatment of children with handicaps,

(e) provision of support services to educational agencies,

(f) conducting comprehensive courses on handicapping conditions for educators, counsellors, social workers, physicians and staff engaged in rehabilitation of the handicapped, and

(g) dissemination of information on sexuality of people with handicaps and their integration with the community.

Development of Research in Prevention, Education, Vocational Training and Economic Rehabilitation of Handicapped.

This conference recommends :

(52) That great emphasis be placed on research connected with

(a) improvement of existing aids, appliances and equipment for the handicapped.

(b) development of new, simplified and cheap devices,

(c) use of indigenous material, simpler design, standardization leading to cost reduction,

(d) vocation-oriented development of devices,

(e) effective evaluation process for devices, and

(f) development of substitute materials and improved fitting techniques.

(53) That emphasis be laid on research evolving design data by bio-engineering analysis of patient linked factors.

(54) That tests be evolved for all categories of the handicapped, concerning their intelligence, attitudes, aptitudes and different psychological factors and that such tests be designed for Indian situations.

(55) That the research to be conducted should also include secondary problems of the handicapped employees like pressure on tissues, inflamation of joints, etc.,

(56) That the Union Ministry of Social Welfare should publish a digest of research on problems of the handicapped.

(57) That the Government of India and State Governments need to define the areas of research policies and research programmes.

(58) That technology and architectural designing be developed for environmental modifications to suit the needs of the working handicapped, and

(59) That there should be nation-wide dissemination of research findings, preparation of directories and feed-back reports indicating how the results of research have been implemented or acted upon by voluntary agencies in the field, and that Government and the concerned research councils shall fully finance the same.

Elimination of Handicapping Conditions — The Role of Medical Men, Social Workers and Agencies : Local, National and International.

This conference recommends :

(60) That subjects of prevention and early detection of disability and disease and the rehabilitation of the handicapped be introduced in the medical curriculum at the undergraduate and post-graduate levels.

(61) That the recommendation be made to the U.G.C. that in the Universities, at the post-graduate level, courses be introduced relating to prevention and rehabilitation of the handicapped and studies be encouraged on the family life and other areas of the lives of the handicapped.

(62) That teaching of early detection of disability, prevention of disability and introduction to rehabilitation be incorporated in the teaching programmes of nurses and other health and para-medical workers.

(63) That Departments of Rehabilitation of Handicapped be established in medical colleges and in district hospitals to extend services to the handicapped.

(64) That a massive educational programme be intiated to bring an awareness of the common causes and conditions leading to various disabilities and their elimination.

(65) That the widest possible publicity be given through all recognised mass media channels, using audio visual aids for educating masses in prevention and cure of the handicapped.

(66) That treatment, visual aids, drugs, etc. be given free of charge to the poor people of rural areas for preventing handicaps.

(67) That the medical colleges, voluintary organisations working in the field of the handicapped should jointly undertake area development projects related to the elimination, prevention, treatment, rehabilitation and follow-up of the handicapped.

(68) That mobile units, primary health centres and similar units should be obligated to reach out the rural population to test the eyes, ears, nose and throat of children below the age of six to facilitate early detection, medical and surgical treatment, and necessary aids and treatment be provided to improve the functional abilities for education of parents, relations and community.

(69) That local, state, national and international organisations should be involved in the prevention of disabilities and the rehabilitation of the handicapped.

(70) That as genetic counselling and bio-chemical tests carried out help in preventing the genetic causes, Government and the local bodies should establish genetic counselling cells at the hospitals, primary health centres and medical colleges.

(71) That Government should encourage voluntary organisations, hospitals, professional organisations to undertake research in prevention and problems of rehabilitation.

(72) That social agencies and the departments of continuing education of the universities be provided with necessary finance to undertake community education programmes to create awareness in the community regarding various diseases and need for early detection, treatment, elimination and prevention of the handicapping conditions.

(73) That community education be started in schools and continued at college levels with the active co-operation of medical and health personnel, teaching staff, volunteers and social service groups like the National Social Service, Scouts and Guides, Mahila Mandals, Rotary & Lions Clubs and employers.

(74) That the ministries and departments concerned should provide sufficient funds for undertaking research studies by the universities, academic institutions, research scholars in the areas of biomedical psycho-socio-educational-economic aspects of the handicapped and review of the rehabilitation system and retrieval of information and follow-up.

(75) That the Government of India, the State Governments and the local authorities should introduce nutrition programmes for expectant mothers, during pre-natal and post-natal stages and pre-school children for the prevention of handicapping conditions, and

(76) That the Government of India and the State Governments should appoint advisory and implementation committees at the national, state, division and district levels to promote the prevention programmes for different kinds of handicaps.

Prevention and Early Detection of Blindness and the Role of Voluntary Agencies

This conference recommends :

(77) That eye camps and all mass meetings should be fully exploited for spreading mass education in rural areas on preventive aspects of blindness.

(78) That keratoplasty operations should **not** be done at eye camps but cases only should be registered at such camps and referred to appropriate hospitals.

(79) That, where possible, the eyes of the child should be tested by qualified medical practitioners and that the child should also be fully checked by an E.N.T. specialist, preferably before admission to the school or soon thereafter.

(80) That Government should take effective steps to prohibit couching of cataracts, mutations and similar other malpractices indulged in by quacks, prescribing severe penal action, including vigorous imprisonment.

(81) That everything possible be done to eliminate common causes leading to blindness, for the early detection and prevention of blindness for preservation of residual vision with the aid of Low Vision Aids and for remedial and corrective treatment where indicated.

Prevention and Early Detection of Deafness and the Role of Various Agencies

This conference recommends :

(82) That all possible steps be taken for the early detection of deafness with the help of parents, otologists, audiologists, pediatricians and family physicians.

(83) That the rehabilitation of the deaf child be accelerated by correct attitudes and approaches of parents, with the help of hearing aids and speech and auditory training and the schooling of the deaf.

(84) That congenital deafness due to exogenous causes can be eliminated or limited by limitation of ototoxic drugs and proper prenatal diagnosis and appropriate surgical intervention.

(85) That schools for the deaf be fully equipped to diagnose, treat and train the deaf child and the government should fully finance them, and

(86) That the State Governmen's and the local authorities should include the 'school health service' the testing of the children's hearing ability and assist the children in securing treatment and hearing aids if needed.

Prevention and Early Detection of Mentally Retarded and the Role of Various Agencies

The conference recommends :

(87) That the Government of India, the State Governments and the local authorities should equip the hospitals, primary health centres and dispensaries and provide gynaec and obs'etrics exam'nation facili'ies to elim'nate factors and conditions that lead to mental retardation.

(88) That the Director of Health Serv'ce should ensure that maternal and child health clinics are provided with adequate facilities for determining blood

group incompatibilities, examination of the metabolic diseases and provision of special diet and therapy to babies.

(89) That the Directorate of Health Services should organise on a massive scale immunisation and vaccination programme for children in urban and rural areas and facilities of testing the children regarding the mental, motor and other developmental aspects.

(90) That the Directorate of Health Services should provide adequate paediatric services in all the hospitals, maternal and child health clinics and dispensaries to ensure the avoidance of factors and conditions that lead to mental retardation, and

(91) That the social workers, psychologists, clinicians, therapists and those concerned with the mentally retarded persons should organise orientation programmes for the community regarding the causative factors and conditions, abilities of the retarded, education and other services to develop understanding regarding the problems of the mentally retarded.

Prevention and Early Detection of Conditions Producing Orthopaedic Handicapping Conditions and the Role of Various Agencies

This conference recommends :

(92) That the Government of India, the State Governments and the local authorities should organise triple vaccination programme in the urban and rural areas and facilitate prevention of the conditions producing orthopaedic handicaps.

(93) that the Directorate of Health Services should lay greater emphasis on the preventive and rehabilitative services in all hospitals.

(94) That for early detection of the orthopaedic handicaps, the Government should establish, in collaboration with the voluntary organisations, facilities for their detection and prevention, and

(95) That the maternity homes should be properly equipped and the gynaecologists, health visitors, public health workers and social workers should organise orientation programmes regarding the pre-natal and post-natal complication and significance of treatment.

Prevention and Early Detection of Leprosy and the Role of Various Agencies

This conference recommends :

(96) That the social agencies be encouraged by the Government to launch massive prevention programmes and early detection of the diseases and motivate parents of leprosy affected persons to continue with treatment.

(97) That a special task force be established for education of patients and the public regarding prevention of deformities of the leprosy afflicted and adequate financial assistance be made available to voluntary agencies by Government.

(98) That an assessment study be undertaken in regard to the expenditure on treatment of patients and on community education programmes that have been launched by Government and voluntary organisations and, if found inadequate, necessary funds be made available for effective implementation of the programmes.

(99) That the Voluntary Agencies be provided with necessary qualified personnel counselling and rehabilitative services to leprosy afflicted patients and their families.

(100) That greater emphasis be laid on co-ordination of the efforts of voluntary and governmental agencies working for the relief of leprosy patients, and

(101) That in the programme of eradication of leprosy, special emphasis be laid on early detection, prevention and control by motivating the patients to take and continue the treatment.

Prevention and Early Detection of Cancer and the Role of Various Agencies.

This conference recommends :

(102) That prevention and early detection of cancer be given priority in our national programme for cancer control.

(103) That this programme be organised with the active co-operation of Government and voluntary agencies concerned at all levels, by setting up cancer detection centress at state and district levels with adequate financial assistance.

(104) That for obtaining better results, a team approach be made in community education programmes on cancer.

(105) That stress be laid on educating the public regarding the pre-disposing factors and about the seven danger signals of cancer by utilising the mass media and specially by audio-visual aids.

(106) That employers and industrialists be educated and be obligated to take necessary preventive and protective measures and to provide for the treatment and rehabilitation of their employees, whose diseases is caused by the working environments, and

(107) That the general practitioners and health personnel be orientated and supplied with posters and other display materials regarding the seven danger signals in different regional languages and also emphasising that cancer is not contagious.

Social and Cultural Integration of the Handicapped

This conference recommends :

(108) That the Government of India, the State Governments and the local authorities should make available and develop all-round opportunities for the handicapped as is being done in the case of other minority and socially handicapped groups.

(109) That the Government of India, the State Governments and the local authorities should provide integrated educational facilities, educational aids and materials to the different categories of the hanicapped and provide remedial and corrective education.

(110) That the Government of India, the State Governments and local authorities should strive to develop integrated education programmes for the different categories of the handicapped on area basis.

(111) That the Government of India, the State Governments and local authorities should institute fellowships and scholarships for workers undergoing training in remedial and corrective education of the handicapped and such facilities be made an integral part of the educational field.

(112) That the Education Departments be directed to incorporate lessons in text-books that will deal with the prejudices, ignorance, wrong and faulty atti-

tudes towards different types of handicapped as also include in the text-book the biographies of successful handicapped persons.

(113) That in the education content, there should be sufficient emphasis on writings by handicapped persons, and their achievements.

(114) That the Government of India, the State Governments and the local authorities should organise regular training camps in communication skills for the volunteers, N.S.S., N.C.C., Girl Guides and Boy Scouts in Braille reading and writing, typing, lip-reading, sign language, etc.

(115) That the Government of India, the State Governments, the local authorities, C.S.W.B. and voluntary agencies working in the field of handicapped and women's welfare, should give special attention to the education and training of the handicapped women with a view to enabling them to be self-reliant.

(116) That the Government of India should evolve a policy for information and broadcasting to draw the attention of the society to understanding.

(a) factors and conditions that lead to various kinds of handicaps,

(b) diagnostic, curative and preventive services,

(c) corrective services and other aids,

(d) manufacturing of prosthesis, equipment and aids,

(e) interviews with the handicapped, highlighting their capabilities and the struggle they encountered in life.

(f) employment exchanges be directed to make extra efforts for the occupational placement of the cancer and leprosy arrested persons.

(117) That the Film Censor Board should pay special attention to films depicting the life of the handicapped and should see to it that a film or play does not depict the handicapped as a fallen person and a subject of pity.

(118) That to ensure proper and full integration of the handicapped, institutions for the handicapped should give priority to development of skills in communication among the handicapped and also provide scientific training in the healthy acceptance of their disability.

(119) That to facilitate proper access to public buildings,

entertainment places, historical monuments, etc. the Government of India, the State Governments and the Local Authorities should remove the architectural barriers that prevent the handicapped people from visiting them and consideration be given to their needs while constructing new buildings, etc.

Manufacture of Special Aids and Appliances for the Handicapped

This conference recommends :

(120) That agencies undertaking mass manufacture of aids and appliances be encouraged, as they can ensure quality control, servicing facilities and supply of standard spares, keeping the production costs low, selecting suitable materials, etc.

(121) That rehabilitation engineering be introduced as a major field of interest in IITs, especially at the post-graduate level.

(122) That fellowships be instituted to conduct specialised research in the manufacture of proper aids and appliances, taking into consideration patient-linked functional factors, incidents and nature of disabilities, and socio-cultural, economic climatic and industrial factors,

(123) That voluntary organisations desirous of manufacturing aids and appliances for the handicapped must get accreditation from the recognised rehabilitation council,

(124) That voluntary organisations for the handicapped be encouraged to develop ancilliary industries to supply specified parts for the manufacture of aids and appliances in consultation with large aids and appliances manufacturing corporations.

(125) That to meet the needs of the handicapped population, widely spread, it is necessary to evolve a proper distribution system through fitting centres, which need to be established through Corporations and large scale manufacturing organisations.

(126) that till such well organised and administered district level fitting and servicing centres are established, the Government of India, State Governments, local authorities and voluntary organisations should establish mobile units to provide on-the-spot clinical examination, prescription, measurement for fabrication, fitting and alignment.

(127) That since a large percentage of the handicapped population belongs to poor families, it is necessary that such aids and appliances be sold at subsidised rates, making it obligatory on the part of the handicapped person to contribute his share based on different levels of income.

(128) That by payment of nominal premium, an insurance scheme be evolved by the Government to ensure the meeting of losses from the physical impairment and consequent cost on rehabilitation.

(129) That with international collaboration for retrieval of information on the development of newer designs in the manufacture of aids and appliances to use as a basis, for manufacture of such aids taking into consideration the variation in socio-cultural and economic conditions be evolved,

(130) That such collaboration will facilitate maintenance of specific international standards in the manufacture of aids and appliances, and

(131) That Government of India need to approach specialised international agencies for the development of "Rehabilitation Engineering Centres" and training of technologists in different parts of the country to facilitate development of 'care' area of activity.

Need for Better Emphasis on Modern Technology in Education and Vocational Training of Handicapped

This conference recommends :

(132) That pre-school and primary education be made compulsory up to the age of 16 years for the handicapped children and this be realised, fully by the year 1988.

(133) That the Department of Technology, Government of India, the Artificial Limbs Corporation, the National Physical Laboratory and the National Voluntary Organisations having necessary technical expertise be involved in the manufacture of aids and appliances using indigenous raw materials for promoting education, vocational training and economic rehabilitation of the handicapped.

(134) That to promote education and vocational training of the rural handicapped, simple unsophisticated equipment be designed by various Government agencies in consultation with the technical departments and the NASEOH.

(135) That to enable the handicapped to march towards self-reliance, simple domestic aids, appliances and other gadgets be designed and manufactured at reasonable rates.

(136) That the State Governments and the Local Authorities should give assistance for training the personnel for repairing and servicing of the aids and appliances.

(137) That liberal grants be made available to schools and vocational centres for the handicapped for their education and vocational training using the latest technical aids.

(138) That the rules and procedure for import of aids and appliances from abroad be liberalised and simplified to help associations for handicapped to purchase them.

(139) That the Government of India should involve the national organisations to take full benefit of bilateral or unilateral agreements entered into with different foreign countries.

(140) That full advantage of foreign and international agencies be taken for funding, for expertise in the development of aids and appliance and to promote education and vocational training of handicapped.

(141) That wherever possible, technological research and know-how should be extended to agencies which are engaged in the manufacture of mobility aids and appliances by the Government through expert organisations.

(142) That catalogues should be published and circulated among institutions and agencies working for handicapped by agencies (commercial, voluntary and Government) manufacturing prosthetic and orthotic aids, as also directories on financial and technical assistance extended by the voluntary and Government agencies.

(143) That periodical exhibitions be organised by the professional agencies and Governments so as to make the public and the agencies aware of the updated prosthetic, orthotic and other aids used in the education and rehabilitation of the handicapped.

(144) That the non-commercial voluntary organisations should be permitted to import modern gadgets and devices for the benefit of the handicapped free of import and customs duty.

(145) That the results of research made in this field in progressive countries be fully availed of and adopted to suit our conditions, and

(146) That the Directorates of Education of all the States, in consultation with NASEOH, should organise regular training and refresher courses and programmes for teachers of the handicapped, in co-operation with the State Institutes and the regional colleges of education, the N.C.E.R.T., and the National Institute of Public Co-operation and Child Development.

Educational and Vocational Training of The Blind Using Modern Technology

This conference recommends :

(147) That for the spread of integrated education amongst blind children, conventional aids in reading and writing Braille and mathematics be made widely available to the blind children by extending necessary financial assistance to Voluntary Organisations manufacturing such aids.

(148) That for promotion of advanced education amongst the blind, recorded and taped material be supplied to the blind under-graduate and post-graduate students,

(149) That for developing better communication between the seeing and the blind, aids like the optacon be developed, translating the printed work into the spoken word.

(150) That to facilitate mobility of the blind, electronic aids be developed to assist the blind in sensing the environment, and

(151) that to enable the blind to participate effectively as productive partners in industries, industrial aids such as audible mrlti-meters, micrometers, wood marking gauge, etc. be manufactured.

Education and Vocational Training of The Deaf Using Modern Technology

This conference recommends :

(152) That to facilitate the deaf upgrading their skills, instrumentation in the following areas be develoloped, using modern technology with indigenous material.

(a) evaluation of hearing loss;

(b) testing of hearing aids, and

(c) communication aids; and

(153) That to enable the deaf to be effective participants in the activities, personnel be trained to work with the deaf, and short-term training courses for them be developed in the use of these aids.

Education and Vocational Training of the Mentally Retarded Using Modern Technology

This conference recommends :

(154) That activity-oriented education systems be developed for assisting the mentally retarded child for his integration in the community.

(155) That simple and unsophisticated aids be developed for facilitating his education, and

(156) That a suitable curriculum be evolved for facilitating his education.

Education and Vocational Training of the Orthopaedically Handicapped Using Modern Technology

This conference recommends :

(157) That besides provision of wheel chairs for mobility within the house and propelled tri-cycles, motorised wheel chairs, scooters, mini-cars, etc. with suitable modifications and adaptations should be introduced and provided with Government subsidy.

(158) That there should be effective dissemination of information regarding the various courses conducted in the prosthetic and orthotic engineering in different parts of the country in the form of booklets.

(159) That for the improvement and development of the functional ability of the handicapped indigenous artificial aids be developed which can be within the reach of the clients, and

(160) That the personnel working with the handicapped be provided with regular training facilities in order to facilitate usage of the artificial aids for them.

Education and Vocational Training of the Leprosy Arrested Using Modern Technology

This conference recommends :

(161) That research and technological skils be focused in the area of manufacture of tools with special attention to their cosmetics, functional excellence and reduction of costs.

(162) That a national organisation like the NASEOH should recommend to Karrigery, the institution at Madras, to take up research and effective production of foot-wear as per requirements of leprosy afflicted that Karrigery should launch a programme for training artisans in the manufacture of such foot-wear with the co-operation of voluntary organisations in the field.

163) That suitable electronic gadgets be devised which would forewarn the leprosy patient about the building up of pressure in his seat; and that such devices for hands, fingers and toes as will offset the loss of sensation in these parts of body be devised.

(164) That a preliminary survey be undertaken to identify the various items of agro-industrial tools and implements as also other aids for leprosy patients since most of them come from communities engaged in agriculture and rural industrial pursuits, and

(165) That laboratory studies be conducted for regeneration of affected nerves and transplantation of nerves of leprosy patients.

Education and Vocational Training of the Cancer Disabled Using Modern Technology

This conference recommends :

(166) That to develop functional abilities of the cancer disabled patients, suitable aids and equipment be designed and manufactured, and

(167) That the personnel working with cancer disabled patients be fully trained in the use of such aids and equipment.

Challenges Posed in Economic Rehabilitation of Handicapped in Rural Setting in a Developing Economy

This conference recommends :

(168) That the Government should ensure proper safety measures in rural areas and emphasize these to

avoid disabilities, and orientation courses in safety training be regularly organised for rural populations.

(169) That the personnel at the district and taluka levels be trained in such safety measures to present disabilities and be made responsible for inspection and guidance to ensure better physical safety.

(170) That the Government should utilise the mass media of communication for motivation of the rural handicapped for adequate and hard work.

(171) That the Government should undertake training of personnel required for the development and rehabilitation of the handicapped in rural areas and their placement be made from the district level to village level.

(172) That the Government of India, Labour Departments of the State Governments, Departments of Industries and industrial establishments in collaboration with the ILO should prepare a blue-print plan for the vocational rehabilitation of the handicapped in rural areas.

(173) That the Ministry of Labour & Employment of Govt. of India, Labour Departments of the State Governments, Departments of Industries, Agriculture and Cottage Industries, Animal Husbandry and such others should evolve training courses in consultation with the agricultural universities and organise such training programmes in different parts of the country which should be followed by regular refreshers' courses and, wherever necessary, international co-operation be sought for financial assistance and expertise.

(174) That if voluntary national organisations working for the handicapped desire to undertake the responsibility of training the disabled in agro-industrial skill, they should be given full grant-in-aid, recurring and non-recurring.

(175) That the handicapped trainees while undergoing training be provided free lodging, boarding and adequate stipend during the training period and on completion of training, be provided with seed capital to equip them to be on their own.

(176) That the Union Health Ministry and the State Health Departments, in co-operation with voluntary organisations should establish training units in callisthenics to strengthen the bodies of the handicapped, where needed with the use of artificial aids and appliances.

(177) That NASEOH should undertake periodic follow-up study of these trainees, for which 100% grant be made available by the Department of Education and Social Welfare.

(178) That the Union Ministries of Education & Social Welfare and Labour and Employment should evolve a national policy for the handicapped keeping in view the family as a unit of resettlement of the handicapped.

(179) That the Government of India and the State Governments should issue directives to the panchayats to make available agricultural land belonging to the panchayats for resettlement of the handicapped and their families on co-operative basis ensuring their contribution towards economic expansion of the village as well as their own welfare in self-reliance.

(180) That the Government of India should evolve in consultation with NASEOH a plan of rural rehabilitation of the handicapped and the implementation of the same be entrusted with the National Voluntary Organisation for the handicapped making available 100% grant-in-aid both recurring and non-recurring.

(181) That NASEOH be encouraged with 100% financial assistance from the Government of India/ State Governments to establish district and regional councils for the rural rehabilitation of the handicapped and their families, including training the handicapped in agriculture, horticulture, pisiculture, woolcraft, animal husbandry, floriculture, tobacco growing, condiment growing, cotton growing, carpentry, tailoring, dairy development, poultry farming, beekeeping, shoe-making and other rural and tribal crafts and food processing industries, forest produce and other allied pursuits.

(182) That Government should allot, free of cost, land with irrigation facilities, and make adequate financial aid available for successfully resetting the handicapped from the rural areas.

(183) That the State Governments should cover the handicapped under the rural employment guarantee scheme.

(184) That NASEOH be consulted by the employment exchange for the employment and placement of the handicapped wherever such special employment exchanges are not established.

(185) That the Government of India and the State Governments should provide transport facilities to reach out the rural handicapped and similar facilities be also extended to the placement officers engaged by national voluntary organisations.

(186) That special considerations be given for the rural handicapped in the issue of licences for starting rural industries.

(187) That the nationalised and other banks be directed to give interest-free loans to the handicapped and the procedure involved be made simple and speedier in their case.

(188) That financial and marketing assistance be provided by agencies in the field.

(189) That NASEOH should be given 100% assistance by the Government of India to establish a research cell to undertake studies in urban and rural areas to assess the varied needs of the handicapped and the related problems, and

(190) That the Government should establish special training centres in each district for handicapped girls with hostel facilities.

Economic Rehabilitation of the Rural Blind, Deaf, Mentally Retarded, Orthopaedically Handicapped, Leprosy Cured, and Cancer Disabled

This conference recommends :

(191) That in order to identify, locate, establish, forge communication links with the family and the village community and with a view to facilitating the full acceptance and development of the rural handicapped belonging to all categories of the handicapped, special home visitors and teachers be provided by the State Governments and the local authorities at their cost.

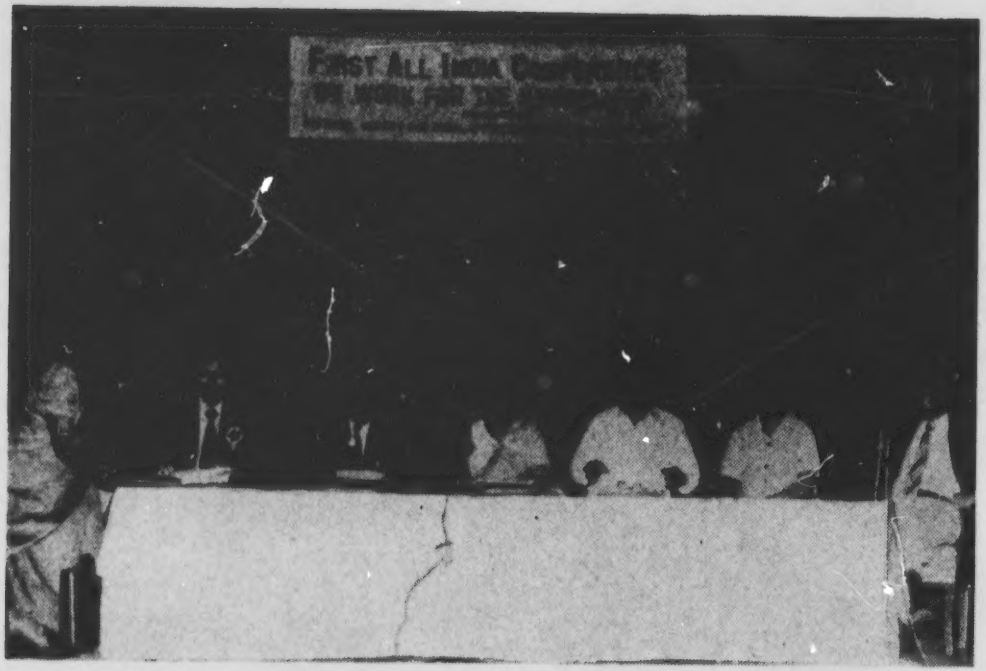
(192) That such home visitors and teachers be selected from the educated rural youth, who may be given appropriate basic training, and

(193) That such home visitors and teachers be entrusted with follow up work and with the task of developing and fully resetting the rural handicapped clients in their areas.

SECTION II

CONFERENCE PAPERS

Dr. M. S. Gore, addressing Plenary Session I as the Chairman. To his right is Dr. M. S. Keswani, NASEOH Vice-President.



Panel discussion on "Development of research in education, vocational training and economic rehabilitation of handicapped". From left : Mr. Richard LecLair. Prof. M. Y. Bhide, Miss Mandakini Khandekar (moderator), Mr. S. P. Taneja, Dr. R. T. Vyas & Dr. V. K. Kool.

Dr. Shantilal Mehta addressing Plenary Session III.

Dr. K. Madhavan Kutty, Chairman of Plenary Session V, addressing the delegates.

A TOTAL REVOLUTION FOR THE HANDICAPPED

By LAL ADVANI,
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Government of India.

One of the paradoxes of phenomenal advance in medical and engineering sciences is a large increase in the number of handicapped people in the world. Snatched from the claws of death, these people live out their lives with terrifying physical and mental disabilities — terrifying not necessarily because of the extent of damage out to a large extent because of their virtual estrangement from normal human society.

Oddly enough, visibility of the disability strongly influences individual and social reactions. Indeed, not uncommonly social reactions to visible disability constitute a greater handicap than the natural limitations of physical or mental impairment.

Why is this so ? For an answer one has to turn to a little known psychological fact. Each one of us has a threshold of security. Once this threshold is crossed, individuals build around them protective walls of prejudice. Discrimination, which is basically a form of violence and arises from unconscious fear, becomes incorporated in the style of living of individuals.

The bed-rock of JP's sparkling and fascinating concept of total revolution is moral goodness, devoid of exploitation. History has repeatedly shown that discrimination and exploitation go hand in hand. Exploitation of handicapped children for begging and for other immoral purposes is by no means an uncommon phenomenon.

In his comprehensive concept of total revolution, JP goes to the very heart of the human predicament. He refers to the profund truth that all revolutions must proceed from the very ferment in the human psyche. The well-known dictum of UNESCO that "wars are made in

the minds of man" attests to this timeless truth. Transformation in the human psyche in order to minimise the fear of disability and the resulting estrangement of the disabled must therefore be the focus of attention for bringing about a total revolution for the handicapped.

J.P. refers to the brutalising effects of anonymity. Man is not involved with his neighbour. He looks upon millions of individuals with an impersonal attitude. Personal involvement is the starting point for a close and understanding relationship between individuals. As Allan & Wendy Scarfe so aptly put it: "It is J.P.'s philosophy that men will, when given the opportunity, seek to live co-operatively, that they prefer spontaneous, loving face-to-face relationships to violence and anonymity that they will chose a state of peace rather than conflict."

Numerous research studies have emphasised the dramatic effects of a warm and continuing face-to-face relationship between a handicapped and a non-handicapped individual. Bringing out with striking clarity J.P.'s psychological perceptiveness, prejudice melts away in the warmth of human relationship.

Curiously, many of us will probably question the thesis that prejudice, exploitation and violence are the product of unconscious apprehension. They are also the product of layer upon layer of conditioning down the ages.

In referring to history, T. S. Eliot had talked of "vast impersonal forces". These are the forces that shape the human culture which has for centuries upon centuries placed a high premium on the body beautiful, the body perfect and intellectual prowess. As every psychologist is aware, we all unconsciously build a body image. A physical disability alters physical facts and forces a psychological change in our body image, giving rise to unconscious ambivalence in the process.

Times of economic depression have been known to accentuate rejection of the handicapped. Society has long viewed the handicapped as less worthy individuals. Unaided by modern technology, their capacity for economic productivity is reduced. Perhaps by the hidden operation of the primal principle of the "survival of the fittest", sharing economic opportunity with the handicapped in times of stress creates an abysmal schism.

Thus, social, cultural, economic and psychological reasons contribute to the prevailing situation. But, unfortunately, many of us are not aware of our own motives for the exclusion of the handicapped from economic opportunity and social interaction. Nor are we often aware of our patronising attitudes towards those who appear to

have diminished capacity. "Man lives consciously for himself", wrote Tolstoy in "War and Peace," echoing Adam Smith, "but is an unconscious instrument in the attainment of the historic universal aims of humanity."

The first step in a psychological transformation is awareness of human motives. Recognition of the reasons for our actions is essential to casting them in a new mould. It looks as if man has viewed his relationship with those with physical or mental impairment either with nonchalance or has philosophically regarded them as a part of the historic universal aims of humanity — a distant and impersonal goal.

Miss Wedgwood once hit at the truth when she said that the behaviour of individuals is distinct from their behaviour as members of groups or classes. Today, we witness a growing collective awareness of the potentialities of the handicapped and the need to assist them in their rehabilitation. In sharp contrast, however, the rejecting attitudes rear their ungainly head in intimate personal relationships, bringing us back to our main thesis that a total revolution must start with our psyche. J.P. has also stressed the point that enlightenment of the people, a mass understanding, would alone create a movement towards a society.

It is a historical fact that movement are started by minorities. About ten per cent of the population of many countries is composed on people having various disabilities. It is perhaps the historic role of this minority to start a movement to create a sense of brotherhood — which is J.P.'s dream — encompassing the handicapped and the non-handicapped.

Utopian scenario as it may appear at first sight, it is by no means possible of achievement. What is necessary is to bring about at all levels integration of the handicapped in the community. Through face to face and warm relationships, the assets and deficits of the handicapped would begin to be appreciated. A positive image of the handicapped as a worker and as a citizen must also be built through the media, the press, text-books and even the public platform. Indeed, a new outlook has to be consciously created and sustained.

J.P.'s call for a total revolution has aroused pulsating expectations among millions of handicapped people here and elsewhere. But what in fact are these expectations? The revolution without a goal is like a body without a soul. Let us turn attention, therefore, to a brief consideration of what the handicapped are seeking through a total revolution.

We have already defined somewhat obliquely the current problems of handicapped people. These lie largely

in the areas of economic deprivation, social rejection and psychological frustrations. Thus, to my mind, a total revolution for the handicapped must rest on four pillars :—

(1) Free access to economic opportunity.

(2) Free and fraternal interaction between the handicapped and the non-handicapped.

(3) Effective rehabilitation services.

(4) Unpatronising attitudes to assist the handicapped.

No society can expect to bring about a total revolution without considering its handicapped population. On the other hand, a society that formally establishes its total revolution on these four pillars embodying the essense of a humane philosophy, could pride itself on having taken a significant step forward in the attainment of the ideals set up by Jayaprakash Narain.

ROLE OF VOLUNTARY AGENCIES, LOCAL AUTHORITY AND GOVERNMENT IN CHANGING CONCEPT OF WELFARE OF HANDICAPPED

By **Mrs. TARA SHASTREE,**
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The main theme of this conference is "total revolution, what about the handicapped?" The question of the role of voluntary agencies, local authority and Government has, therefore, to be reviewed in this context. There seems to be a tacit understanding about the roles and relationship between the voluntary agencies, local authority and the Government in promoting the welfare of the handicapped. It would probably be useful to examine the current conceptions related to social welfare.

Understanding of current conceptions is essential before one reviews the evolution of social welfare from charity to rehabilitation. Initially therefore one may ask a question as what is meant by social welfare? There does not seem to be an agreed upon definition of social welfare. Even, today, when we are striving hard to reinstate "the rights" of certain sections of the society to some, it is just a "relief activity" while to some, it is a "charity," a middle class benevolence, or "a gratuity", provided to the worthy or unworthy disabled, under-privileged and deprived groups and sections of our society. They hardly recognise that it is a 'citizenship right', these people have to welfare benefits.

The range of needs, the methods of meeting these needs, the degree of adequacy with which these needs are met and the identification of the proper recipients and the persons designated to function as welfare personnel seem to be varying from society to society and are related to place and time. Welfare programmes to assist the needy deprived underprivileged and disabled have developed as a result of piecemeal reforms during different periods.

Current conceptions :

In the context of our changing social system, the prime concern of social welfare has to be the development of human potential. The term 'social welfare', if narrowly defined, implies financial assistance and other services to the disadvantaged while on the other hand, it also may refer to collective responsibility to meet the universal needs of the population. Two conceptions of social welfare seem to be dominant today : The residual, and the institutional. The first holds that social welfare institutions should come into play only when the normal structures of supply, the family and the market breakdown. The second in contrast sees the welfare services as normal 'first line,' functions of modern society.

These are the concepts around which welfare services tend to focus and it is not surprising as they derive from the ethos of the society in which these are found. These represent a compromise between the values of economic individualism and free enterprise on the one hand, and security, equality and humanitarianism on the other.

Social Welfare in India :

Helping the needy and the persons in distress has been part of the civilized societies from times immemorial. Service to the fellow beings dates back to the days of Buddha and continued to exist even in feudal times. Religion played a vital role in emphasising the value of charity, philanthropy and mutual help. History reveals about the sharing of responsibility of assisting the needy between the community and the rulers and social service adopted as the mission of life by the common people. This led to the establishment of organised social welfare services for the needy, people in distress, the handicapped and the disabled.

Social welfare, therefore, is not new to us and is very much part of our national tradition. This tradition of social welfare is very much influenced by various social and economic factors. Social institutions like the joint family, the caste system and the village panchayat played an active role in providing the proper mechanism to meet the needs of the sick, the aged, the destitute and the handicapped members in the community in the absence of well organised welfare services and thus the gap was properly bridged.

The state stepped in when the way was paved by the social reformers. With the advent of industrialisation, urbanisation, awareness of freedom, liberty, equality and human rights the pattern of life underwent considerable change. The existing social institutions are finding it rather difficult to cope with the newly emerging demands

and expectations of these groups. The all-out efforts founded on humanitarian consideration are apparently lacking in comprehensive and co-ordinated direction.

The emphasis on organised social welfare work, a systematic attack on the problems and rehabilitation of the handicapped persons did not come up till 1945. No Government action concerning services for the disabled emerged till our independence. Obviously, the missions, philanthropic societies provided some minimum services to the handicapped persons mostly in the form of care.

This was done more on religious basis and on the assumption that social obligation need to be fulfilled through the meeting of needs of this population which is considered as incapable of meeting its own needs with the help of traditional means. The disabled were considered incompetent persons incapable of conducting themselves and hence were regarded as scond class citizens to be provided with second class services.

The new approach in rehabilitation :

We are gradually moving toward the developmental approach in social welfare which necessarily implies that welfare programmes will be the normal and first line functions in our society in order to assure economic and political stability and to provide the citizens with essential supportive resources, equalising the opportunities and redressing the class-related inequalities in the distribution of income and power.

Such an approach in the social welfare of the handicapped will enable these groups to realise their right to an equitable share in the benefits and obligations of the society. The developmental approach may help resolve the conflict between the inequalities of class and citizenship and also the democratisation of charity.

If one took stock of the development of services for the handicapped groups, it could be seen that the Government did not act for the development of services for the handicapped till we got our independence. Voluntary organisations were the most active bodies in this field and had tremendously contributed to ensure the welfare of the handicapped. The shift in emphasis from charity to rehabilitation was ushered in with the first five year plan and then subsequent plans added the dimension to the developmental approach, viz. education, employment, scholarships, establishment of special employment exchanges, vocational training etc.

The magnitude of the task made it necessary to have collaborative efforts between the voluntary organisations

and local, State, Central bodies and Governments. It could thus seen that the bulk of pioneering work was done by the voluntary organisations and the Government came into picture much later, mainly to assist these agencies financially and to develop and improve the quality of services.

It is generally observed that voluntary efforts have been manifested through institutions and organisations and have played a significant role in creating awareness regarding the varied complex human problems, gaps that are existing in meeting the varied common human needs, mobilising the human, material and financial resources and creating climate for enacting appropriate legislation etc. that make it possible to enable the destitute, the delinquent, the handicapped, the under-privileged and the disadvantaged groups to develop and be effective participants in the social, economic and political development.

Since human communities are continually changing and developing, it is necessary to look afresh at frequent intervals at all aspects of life within them, and to see how far policies and methods of carrying them out which may have been right in the past have now outlived their usefulness (e.g. education of the handicapped particularly blind carried out in isolation is now well integrated with normal educational system).

The massive changes that came about in our country in the socio-economic-polities, legal structure almost led to make the people think that the days of voluntary action were over as it was almost thought by the messes that the state will provide for meeting the seeds of all its members 'from the cradle to the grave'. This kind of attitude was short-lived and it is now generally accepted that the voluntary societies have a dynamic and significant role to play.

Functions of voluntary organisations :

Despite sympathy and consideration on the part of the public for the handicapped, the organisation of welfare services for the handicapped groups has been rather slow. Absence of any proper direction or social policy, reliable statistics, training programmes for turning out workers and emphasis on preventive services. These and such other factors gave rise to sporadic development of education and welfare services for the handicapped in the voluntary sector.

In the rehabilitative process the voluntary organisations are participating in varied ways. Institutions and organisations are actively participating at national, state and local level, particularly in the areas, of providing direct services, influencing the social policy, mobilising public opinion and

thus making it possible for the handicapped to become part and parcel of the normal stream of community life. Social Welfare services that are provided to the handicapped particularly for the blind, deaf and dumb include schools, training centres, residential homes and workshops, while for the crippled, due to want of scientific knowledge, the development of welfare services appeared to be rather slow.

The rehabilitative services for the crippled children include a school with a system of toy therapy, training programmes for doctors, physio and occupational therapy, sheltered workshop. Voluntary organisations are working upon development of such facilities on organised basis. Regarding the mentally retarded and leprosy affected persons, some organised efforts are seen in the area of establishment of homes, training centres, and educating public opinion for understanding their problems and promotion of physical, mental and social health.

A review of these facilities reveals that much needs to be done to integrate these services with the services that have been evolved for the normal individuals on the part of the Government and local bodies. More vigorous efforts need to be made to develop well-integrated welfare programmes for early detection, treatment, education, training and prevention as an integral part of the other welfare system and thus making it possible for the voluntary organisations to develop proper community education programmes for understanding the problems of the handicapped services for them and the community's role in the development of such needed services.

Such a strategy of co-operative build-up will establish the fact that the handicapped groups are equal with the normals and each one of us have the social obligations to reinstate their citizen's rights — socio-legal-political and economic.

Any system of providing social welfare services need to take into consideration the cultural patterns and social psychology. The human beings have an urge to help others and this has to be utilised in developing social welfare services for the varied handicapped groups. It is, therefore, necessary to encourage voluntary organisations to develop social welfare services at the community level and the Government need to extend financial assistance for the setting up of standards, technical guidance, necessary equipment, training facilities, trained personnel, and research evaluation and follow up facilities.

The welfare services are most needed particularly where the general public does not accept and tolerate certain

groups of handicapped as fellow members of the community. The Government must finance such projects fully with all other facilities mentioned and thus enable the voluntary workers to concentrate on educating the public about these unfortunate individuals. Statutory bodies like universities should be encouraged to participate in the fields of research, training, evaluation and follow-up work and in mobilising the youth force for the community education programmes and working upon specific projects as volunteer workers.

In conclusion, it may be said that today the handicapped are not so much shunned by the society, no longer shut away in closed institutions but also not very readily accepted as fellow members of the community. It is essential to encourage the families of the handicapped to provide 'home care' and this can be possible provided these families receive support from the welfare services at the local and community levels.

It is, therefore, the responsibility of the local authorities to make arrangements for the care and after care of the handicapped. The voluntary organisations can play an important role in bringing about the change in the public opinion regarding the handicapped persons and constantly pressing for better statutory provisions and implementation. There is a greater need for concerted and team efforts and also saving of the technical and professional personnel for exclusive jobs. It is essential to encourage young volunteers to help them by neighbourly support on a person-to-person basis, by visiting and befriending them, occassionally relieving the family of their care, by organising clubs and outings and other occupational and recreational facilities.

This is a form of social provision where personal service to individuals and small groups is especially needed, which means that it is expensive in time and manpower. Moreover it is the most difficult form of service that can not be provided on a paid professional basis and the work which demands skill and patience can not be handled by inexperienced people.

The varied kinds of disabilities of these persons — child, young and adult — make it impossible for them to lead a normal life. Some cannot work or join in recreation and normal social activity, while all are subject to the handicap of being treated different and being treated as such. Even if they are treated kindly, this differentiation is often resented by them and I feel they must. What they need most is an opportunity to lead as normal life as their disability permits. The goal to which every disabled individual without exception must passionately aspire is nor-

mality, and this can be achieved only inch encouragement and opportunity.

The care of the handicapped, both in the institutions and at home, must be laid by statute on public authorities. Local authorities must be given power to make arrangements for promoting the welfare of person who are blind, deaf or dumb and other persons who are substantially and permanently handicapped. They need to keep registers of all handicapped people who seek their assistance and such registers be made obligatory. The handicapped groups cannot get a square deal unless and until they participate in the welfare activities on self-help basis. Their activity on their own behalf and in the interests of their fellow sufferers helps to make their needs more widely known and will be indicative of their desire to be treated as far as possible as normal people.

NEED FOR NATIONAL POLICY FOR REHABILITATION OF HANDICAPPED

BY VIJAY MERCHANT,
President, NASEOH
and
Mrs. NAMA VISHNU BHAT,
Executive Secretary, NASEOH.

Introduction

In 1966, Heinrich Braun, while formulating a statement of policy on the rehabilitation of the disabled in Germany said : "Every person has a right to all aids and services which are conducive to the maintenance and restoration of his health and ability to work. Extensive medical and vocational services must make it possible for the handicapped person to find work and a place in society with the same rights as others. The rehabilitation services must not be made dependent on the type, cause or extent of the handicap. The various responsible bodies must co-ordinate their rehabilitation services and systems and create joint systems. This process will require a new legal basis."

Eero Hakkinen of Finland Ex-President, Central Association of the Blind, Finland, at the World Assembly for the Welfare of the Blind in 1969, while explaining why special laws were necessary for the welfare of the handicapped, stated that some other legislation was necessary because of the special needs of the handicapped, as physical and mental handicaps cause many quite special problems, which would be difficult to solve through general legislation and to provide services, supplies and equipment.

Need for National Policy :

It is this very special character of the needs of the handicapped and their birth-right to requisite services to enable them to work and to secure the place in the society they deserve that urgently calls for a statement today in India of a National Policy on Rehabilitation of the handicapped.

A policy statement is important because it provides the strategy of action, laying stress on specified areas of activity and indicating the means and methods to be followed in successive phases to achieve the declared objectives by the nation. Policies are therefore like standing plans, like instruments to achieve national goals; they also provide guidelines for devising indicators to measure the effectiveness of the strategies to achieve goals.

A policy in the Indian context, therefore, becomes the link between the Constitution and the development plans, providing perspective, ensuring that the proprammes are consistent with the basic principles, and seeking to achieve successive short-term goals which conform to the long-term objectives laid down in the Constitution. Such a policy will also ensure uniformity of projects and programmes adopted by different States of the Union.

Provisions under India's Constitution :

There are provisions in our Constitution which under the directive principles and elsewhere fully justify the proposal for evolving a National Policy for Rehabilitation of Handicapped.

The preamble to the Constitution solemnly affirms to secure for all its citizens —

"JUSTICE, social, economic and political .....

EQUALITY of status and of opportunity and to promote among them all FRATERNITY assuring the dignity of the individual and the unity of nation."

The framers of the Constitution surely would not have envisaged a kind of justice which would blindly apply the same yardstick to such widely different sections of the people as the able-bodied and the handicapped. It will be more in conformity at least with the spirit of the affirmation to infer that this justice would take into account the disabilities of the handicapped and provide for compensatory provisions to ensure real justice to the handicapped.

This interpretation is further justified by the expression "to promote among them all fraternity assuring the dignity of individuals." How could the dignity of the individual be assured in the case of handicapped unless the handicapped are given special facilities to attain "equality of status and of opportunity ?"

In the directive principles of the State policy it is stated, among other things : "The State shall strive to promote the welfare of the people by securing and protecting as effectively as it may a social order in which justice, social,

economic and political, shall inform all the institutions of to national life." (Art. 38)

Here again the expression "securing and protecting" implies the need for well considered State action to ensure such justice particularly for those who are unable to secure it for themselves. Who else deserves such protection more than the physically and mentally handicapped ?

"The State shall, within the limits of its economic capacity and development make effective provision for securing the right to work, to education and to public assistance in case of unemployment, old age, sickness and in other cases of undeserved want." (Art. 41)

When the founding fathers of free India commended public assistance in cases of "undeserved want" no other section of people perhaps attract the provision of Article 41 as the handicapped for their disability or want being in no way due to their own fault is patently the most undeserved.

"The State shall endeavour to secure, by suitable legislation or economic organisation or in any other way, to all workers, agricultural, industrial or otherwise, works, a living wage, conditions of work ensuring a decent standard of life and full enjoyment of leisure and social and cultural opportunities" and so on. (Art. 43).

These provisions elaborate on the mode of ensuring public assistance to the handicapped among others.

"The State shall promote with special care the educational and economic interests of the weaker sections of the people." (Art. 46)

Perhaps the most important and the most explicit of the provisions of the Constitution compelling attention to the handicapped is this. Could there be any other weaker section by any norm physical, mental, social or other, than the handicapped people ?

A special obligation is definitely laid down on the State to devote particular attention to the welfare of the weaker sections of the people which must undoubtedly include the handicapped.

Guided by the directive principles, the Government of India adopted development planning as the main strategy for the fulfilment of the constitutional obligations. In the plan literature, social services have been described as "vital ingredients in the scheme of economic development" and also as measures for "ensuring greater equality of opportunity to different sections of the population and greater social mobility."

The adoption by Parliament, in December 1954, of the objective of a socialist pattern of society placed the principle of social justice in a commanding position over the entire developmental effort.

One of the first duties of a welfare state and a distinguishing feature of a socialist pattern of society is to protect and promote the interests of the weaker sections of the population — which is also an obligation on the State under the Constitution, to ensure within a reasonable time certain minimum standards of living to all.

In this context the Government has recognised first of all the scheduled castes and the scheduled tribes, forming one fourth of the population, as weaker section in whose case special measures are needed for the removal of social disabilities, educational backwardness and economic insecurity. But then the question arises whether the weaker sections should be identified on grounds of birth alone or of need also. And if the latter, the handicapped also naturally come in as weaker sections.

The handicapped are a weaker section first because of the physical or mental disability, defect or disease. Secondly, in most cases, these handicapping conditions are themselves evidence of certain pronounced backwardness, economic, social etc. of the family or community. For instance, blindness is a pointer to malnutrition or primitive beliefs, i.e. educational backwardness. This is true of many handicaps.

We, therefore, feel that the handicapped also form a substantial weaker section of the society. They form a major group, if we take into consideration their special needs including problems of rehabilitation. Programmes for the rehabilitation of the rehabilitation of the handicapped as a weaker section should therefore find a prominent part in our national development plans.

Objectives of National Policy :

Basically we all need minimum of food, clothing and shelter to maintain life, and in an economic system which uses money as a means of exchange and a measure of value, it would appear to be a simple task to calculate how many rupees are needed at a given time to ensure a minimum level of subsistence. But in developing countries like ours, where the standeard of living keeps rising, yesterday's comforts of a few become today's necessities for all; aspirations which were earlier limited to the chosen few, soon become the hopes of everyone. Thus the simple-looking task of ensuring all a minimum level of subsistence turns out to be an exceedingly complex problem.

We, therefore, need a National Policy for the Rehabilitation of Handicapped, which will give us a strategy of action indicating the means and methods to be adopted in order to achieve the objective. The services to be devised for the purpose will include programmes catering to the various needs of handicapped persons, who are unable to avai themselves of the normal amenities provided by the society.

It should be the policy of the State to provide adequate services to the handicapped from birth, through the period of growth, to ensure their full physical, mental, social and economic development. In fact, prenatal services to avoid congenital handicapping conditions have also to be provided. The scope of such services should be gradually increased so that, within a reasonable time, all handicapped in the country enjoy optimum conditions for their rehabilitation.

It is necessary to provide the handicapped social security, preventive and curative medical treatment, special education, training for employment, placement in suitable occupations, training for emp'oyment, placement in suitable occupations, suitably designed housing and access to public buildings.

Broadly, the following measures may be adopted for the attainment of the objective :

I. Prevention and protection
   (a) To protect handicapped children against neglect, cruelty and exploitation.
   (b) To undertake and encourage preventive and ameliorative welfare programmes at the community level so that the expenditure on curative services is kept to the minimum.

II. Education
   (a) To promote programmes for pre-school education of handicapped children.
   (b) To provide free and compulsory education for all handicapped children up to the age of 14, for which a time-bound programme shall be drawn up.

III. Vocational Training
   (a) To evaluate the rehabilitation protential of various groups of handicapped, region-wise if necessary.
   (b) To draw up and implement comprehensive and continuing State plans for meeting the current and future needs of vocational rehabilitation services to the handicapped in preparing and engaging them in gainful employment.

IV. Employment

(a) To promote increasingly in a planned manner placement of the handicapped in the public and private sectors, in jobs both in urban and in rural areas.

(b) To initiate and expand employment services to handicapped individuals, including those who are homebound.

(c) To provide special assistance to handicapped youth to ensure equality of opportunity in all ways.

V. Training Cadres

(a) To provide assistance to voluntary organisations for training and upgradation of the skills of rehabilitation and research personnel, thereby building up systematic cadres of professionally qualified personnel, on a salaried basis, at various levels.

(b) To orient general administrators and executives in the objectives of the National Policy for the Rehabilitation of the Handicapped and principles and practices of handicapped welfare.

VI. Research

To develop new and innovative methods of applying advanced medical and other scientific technology and psychological and socialogical knowledge in the rehabilitation process and services for the handicapped through research, demonstration, etc.

VII. General

(a) To promote specialised care of handicapped with a view to making them self-respecting, self-reliant citizens contributing to the nation's manpower resources.

Functions of State & Voluntary agencies: The responsibility for the implementation of a National Policy for Rehabilitation of Handicapped rests with (i) voluntary organisations, (ii) the Government, and (iii) local bodies.

The voluntary welfare organisations for the handicapped have a crucial role to play in the implementation of the national policy. This is because of (a) the pioneering experience of the voluntary organisations in the filed; (b) the human approach of the voluntary organisations; and (c) their capacity to generate support of the community.

To encourage voluntary organisations to participate in the implementation of the national policy, it is necessary that

the Government. (1) recognises voluntary organisations as co-partners of equal status in promoting the welfare of handicapped; (2) gives due weightage to voluntary organisations of long-standing and of a good record of service to handicapped for development of rehabilitation services, and (3) creates conditions in which the vitality of the voluntary efforts is enhanced and their freedom widened

The Government must leave pioneering and experimentation largely to voluntary organisations and then, whenever national coverage of a proved service is necessary, the Government must assume responsibility. The State, however, has to provide aid to voluntary organisations to maintain and develop their services for the handicapped.

The Government of India set up the Central Social Welfare Board for promoting voluntary action in the field of social welfare, for improving the existing services and developing new ones under the auspices of the non-official body. This Board, however, has not been able to make much headway in developing services for the handicapped. Besides, with the creation of Panchavati Raj, the role of the Central Social Welfare Board and its representative bodies at the State, district and block levels needed review and redefinition. In the absence of it, the Panchavati Raj institutions, which can more easily generate voluntary action than the Board, nonetheless remained ineffective.

It may perhaps be a good idea to constitue a National Board for Rehabilitation of Handicapped. Since the last decade, there have been a number of programmes for rehabilitation of handicapped coming up. But all this work needs right focus, proper planning, and co-ordination to meet the overall needs of the handicapped. The National Board for Rehabilitation will provide these. Similar boards at the State level may also be constituted.

The main department at the State level responsible for the implementation of handicapped welfare programmes is the Social Welfare Department and its Directorate of Social Welfare. Since this department and the Directorate have to deal with diverse other beneficiaries than the handicapped, such as scheduled castes and scheduled tribes, women, children and delinquent etc., not enough emphasis is laid on the welfare of the handicapped are linked up with those of the other groups without understanding the special needs of the former and this hampers progress.

This Department and the Directorate are generally headed by a generalist administrator, who does not have the specific training needed for work in the welfare of the

handicapped. The generalist naturally lays more stress on procedure, on formalism, on centralisation of authority, which harm both the planning and implementation of the welfare measures. Administration even in these days of computers is a human process; yet we persist in regarding it simply as a system. The training of concerned public servants with reference to the handicapped, is therefore of vital importance.

In some metropolitan areas, municipal corporations have started giving educational facilities to handicapped children, but in the smaller civic bodies little is done in this sphere. If every handicapped child of educable age is to receive free and compulsory education up to the age of 14, it is necesssary that all local bodies take up this responsibility. The State Governments must allocate requisite funds for this so that the special needs of the handicapped children are adequately met by the municipalities.

Local authorities should be responsible primarily to provide social services to handicapped people. They must

(i) identify the number, type etc. of disabled people in their areas and publicise the services available to them;

(ii) create services to advise on personnel, social and occupational problems arising out of disability.

(iii) help adaptations to buildings by fitting ramps, wider doorways, etc. and provide proper toilets and aids to facilitate handicapped occupancy;

(iv) provide social and occupational centres and clubs;

(v) provide for teaching of handicrafts and other occupations, either at home or at special centres, and

(vi) provide for all possible recreational facilities.

The Government, the National Board for Rehabilitation of the Handicapped, local authorities and voluntary organisations would form a wonderful team to assist the handicapped to progress in every possible way, thus implementing the objectives set forth in the national policy.

Commitment of Resources :

The inter-dependence of social and economic forces is not merely to be extolled in the evocative part of national plans, but should be stressed in the operational parts, in terms of financial allocations. The fact that this does not often happen in practice becomes evident during periods of crises. Whenever stringency of resources is experienced and the plans have to be pruned, the first cuts often fall on social services and, within the social services, on

handicapped welfare, may be because the handicapped do not, as a group, form a major part of any electorate. The limitations of resources must be a common consideration for all sectors in a plan, and when for some reason, resources are scarcer than envisaged, certainly the targets have to be lowered, but they should be lowered proportionately in all sectors without discrimination.

As regards the proper development of resources, the Government must —

(i) make adequate allocations for the maintenance and development of services for the welfare of the handicapped;

(ii) assess the nature and scope of community and local authority's resources and wherever necessary, take steps, administrative as well as legislative, to channel such resources into services for the handicapped;

(iii) discover and deploy new resources, particularly at the local level, for local projects;

(iv) create conditions in which voluntary organisations can mobilise resources more successfully; and

(v) enter into international collaboration for funding, technical expertise and personnel training in handicapped welfare.

Need for Research and Review :

For securing reliable information about the problems of the handicapped, for formulating new rehabilitation projects and for evaluation of existing programmes, it is necessary to encourage systematic thinking in the field and to supplement and consolidate the empirical knowledge with scientific information.

Research should be undertaken in order to analyse the total benefits of rehabilitation programmes, direct as well as indirect, in relation to their total cost. Such cost-benefit studies should, of course, take into account the "human gains," which are not usually measurable in economic terms.

National and State surveys of the incidence of handicapping conditions and the needs, problems, conditions of living (including income and assets) of the handicapped must be carried out. Periodic appraisal of the effective use of international aid is also necessary.

The national policy will be relevant only to a particular situation and therefore will have to be continuously kept under review to meet the challenges of the changing situa-

tion. The Constitution and national development plans should provide the yardsticks for reviewing the success or failure of the policy at any time.

Continuing analysis of the functional and operational relations among the various social services is needed to enlist their mutual support.

Special efforts should be made to promote or co-ordinate research in all relevant areas. But two main factors limit the scope of research in our country: first, lack of persons trained and experienced in research methodology and secondly the conviction held by many influential leaders that research is very costly and rather esoteric.

Legislative and para-legislative measures:

To achieve the objectives of the national policy, the State will have to provide necessary legislative and para-legislative support. In a developing country like ours, social legislation involves more than the provision of legal framework for the extension of social benefits and social services. It also carries a challenge to traditional attitudes and established practices in the conduct of family and community affairs.

Therefore, the effectiveness of such legislation will depend largely on the capacity of politicians, parliamentary draughtsmen and administrators to combine professional expertise and social perspectiveness in their design for legislation. But it will have to be done to meet the aspirations and needs of the handicapped.

Since the socio-economic conditions keep changing, more so in a developing country like ours, there can be no static policy. It has to be kept continuously under review, to bring the policy in step with the realities of the situation.

INTERNATIONAL COLLABORATION FOR IMPLEMENTATION OF NATIONAL POLICY

By DR. HENRI VISCARDI JR.,
Chairman, U.S. President's Committee on Handicapped,
Chairman, White House Conf. on Handicapped Individuals,
President, Abilities, Inc.

May, 1977 heralded a new era in the struggle of handicapped Americans to live lives of dignity and independence. The White House Conference on Handicapped Individuals was held in Washington, D.C. with nearly 3,000 people in attendance. Each and every state in the union and all territories of the United States were represented.

The White House Conference on Handicapped Individuals was originally authorised by legislation enacted in 1973. President Gerald R. Ford created the White House Conference and when President Carter took office in January of 1977, he gave the Conference his fullest endorsement. Its goals were :

> To provide a national assessment of problems and potentials of individuals with mental or physical handicaps;
>
> To generate a national awareness of these problems and potentials; and to develop recommendations for legislative and administrative actions to allow individuals with handicaps to live their lives independently, with dignity, and with integration into community life.

In order to attain these goals every State and territory held at least one State Conference on Handicapped Individuals during the year preceding the national conference. Some states held as many as seven such conferences, but in each instance, 50% of the delegate assembly were people with disabilities, and 25% were parents or guardians of people with disabilities.

The thousands of delegates who participated in the State Conference and the White House Conference were the largest body and the first, of individuals with handicaps, to

gather together to attempt to bring about the legislative and administrative changes necessary to allow them to live with independence and dignity.

In essence, the White House Conference was a challenge issued by the President and Congress of the United States. They challenged Americans with handicaps to gather together and work in unity to determine what steps must be taken to help the disabled live lives of economic independence, educational fulfilment and personal dignity.

The greatest honour of my life was to be selected by President Ford, and to have this selection continued by President Carter, as Chairman of the White House Conference on Handicapped Individuals. The early years of my life were inner-directed — before I could help others I first had to help myself. Born with two horribly deformed and virtually useless legs I spent the first 27 years of my life standing a mere three metres tall.

A very kind physician, who to this day is one of my close friends, Dr. Robert Yanover, helped me acquire the artificial limbs that gave me a man's physical stature. But Dr. Yanover left it up to me and the resources of my spirit to achieve the stature of a man in my heart.

The last 38 years of my life have been devoted to helping other severely disabled individuals achieve a sense of dignity in their lives through self-sufficiency in education, employment, and social experience.

After devoting the better part of my life to the concerns of the handicapped, it was a great thrill for me to lead the White House Conference.

Industry-Labour Council :

The White House Conference on Handicapped Individuals produced many firsts but perhaps the most significant was the Industry-Labour Council.

The Industry-Labour Council was co-chaired by Mr. George Meany, President, AFL-CIO, and Mr. John R. Opal, President, International Business Machines Corporation. Council Co-Vice-Chairmen were Mr. Charles Pillard, President, IBEW, and Mr. A. Dean Swift, President, Sears, Roebuck and Company.

The Industry-Labour-Council held four regional conferences to examine problems in the employment of individuals with handicaps. The conference examined the areas of affirmative action, accommodations, recruitment, and employee benefits. The questions they asked one another were difficult, but they worked together to attempt to provide solu-

tions or to uncover problems which would have to be confronted by individuals with handicaps in their quest for independence and dignity.

The delegates to the State Conference on the Handicapped and the regional Industry-Labour Council Conferences presented the White House Conference on Handicapped Individuals with 3,500 recommendations in the areas of health, economics, education, social and special concerns. The delegate assembly of the White House Conference voted on these recommendations and presented them for legislative and administrative action.

Some Challenges and Actions to Meet Them :

We shall now consider some of the challenges that the White House Conference delegates presented and some of the actions which we are taking to meet these challenges. I cannot present every priority of the White House Conference, for to do so would take more time than we have here tonight. I shall present some of the ideas of the conference regardless of area of concern — and some cases where action has been taken to implement the will of the delegates — but I shall focus on the economic concerns of the handicapped. I make this choice because I believe that the economic concerns of the handicapped touch each area of our lives, and because I have spent my life attempting to better employment opportunities for the handicapped.

Health Concerns : In the area of health concerns, the Conference called for screening, diagnosis and treatment programmes; the teaching of life saving skills and effective use of existing emergency systems; the use of federal grants to educate professionals and health care providers and awareness campaigns at all levels. In addition, they called for a National Clearing House or Information Centre.

Educational Concerns : Education plays a key role in the lives of all Americans. The delegates called for vocational and pre-vocational training in all schools; early identification and treatment of children with handicaps; a national clearing house to disseminate research findings to families with pre-school handicapped children; and the provisions of support services to educational agencies for readers and interpreters. The latter is especially interesting in light of a recent court decision which required a college to provide, at its own expense, interpreter services for a deaf student.

Social Concerns : In the area of social concerns the conference made recommendations with respect to attitudes, recreation, culture, architecture, communications, psychological adjustment, and transportation. Among the barriers to dignity and independence one finds not only architectural

barriers, but also attitudinal barriers. To combat these attitudinal barriers the conferees recommended comprehensive courses on handicapping conditions for educators, counsellors, social workers and physicians; the dissemination of information on the sexuality of people with handicaps; the mainstreaming of people with handicaps, and the use of handicapped instructors.

The delegates called for modified recreation facilities and captioned television programmes. The Human Resources Center recently completed a study of the parks of the State of New York for that State in order that it might more adequately serve its citizens who are handicapped, and at the present time feasibility studies are underway to determine the practicality of the manufacture and distribution of television sets which would provide captions for the deaf viewer.

The delegates also called for comprehensive counselling and support services for the handicapped, the provision of accessible public transportation with the support of federal funds, and the equality of personal vehicle insurance rates. The BART system of the San Francisco area could serve as an example to other metropolitan areas as to what is possible in the area of public transportation. The U.S. Department of Transportation has recently developed two prototype taxicabs for transporting the physically disabled and the Secretary is supporting the drive for transportation for the handicapped. This is a crucial area.

There are millions of handicapped Americans who cannot contribute to their own and the country's economic well-being because they are unable to transport themselves to work. Those disabled Americans who do own their own automobiles sometimes find that their personal liability insurance is prohibitive.

Special Concerns :

The delegates considered and made recommendations in the following areas of special concerns : Severe disability service delivery systems, housing, special populations, aging, veterans and civil rights. In the area of severe disability the delegates recommend more concern for the severely disabled, more trained attendants and a review of tax deductions. The delegates also called for a greater role for the disabled in the service delivery system; and alternatives for least restrictive living. There is a grass root movement for independent living in the handicapped community. This movement is strongest in California, Texas, and New York, but it is evident across the country. It is likely that the Federal Government, which is currently studying the question, will devote considerable financial resources to the support of independent living.

Americans who are members of minority groups can frequently find themselves confronted by multiple discriminations. The conferees asked their countrymen to be especially aware of the needs of Americans who happen to be minority group members and handicapped. The delegates recommended cultural awareness programmes, multi-lingual staff, media campaigns, and out-reach programmes to insure that special populations are reached.

Even as minority group members who are handicapped face special problems, so also do our aged citizens who are handicapped. The delegates called for the removal of employment barriers for older Americans; the involvement of older Americans in the programmes influencing their lives; and revision of the Social Security laws to assist the aged. As you are well aware, the Congress has recently passed legislation to raise the mandatory retirement age. Since I am only 39, give or take a few decades, this barely affected me! But, we must come to grips with the reality that older Americans, particularly those with handicaps, face an uphill battle when they seek employment.

For our veterans the conference recommended better service delivery systems, the enforcement of affirmative action programmes, media campaigns to inform veterans of their rights, reduction of the restrictions in non-service connected disabilities, and the review of medical criteria for military assignments and use of handicapped veterans.

There were many recommendations in the Civil Rights area, including a call for an amendment of the Civil Rights Act of 1964 to include the physically and mentally handicapped.

The recommendations I have cited barely scratch the surface, but they will give you a flavour of the profound changes that the conference has called upon us to make. I shall now turn to the area dearest to my heart, economic concerns, and tell you of some of the challenges which we face in this area and of my personal plans to contribute to the economic well-being of handicapped Americans.

Economic Concerns :

One of the most significant recommendations of the Industry-Labour Council that grew out of the four regional meetings of that Council was that an on-going programme must be established to provide a forum for labour and industry to meet, discuss issues, and exchange information on the employment of the handicapped. I have recently founded a national center on the Employment of the Handicapped at Human Resources Centre to meet this challenge. To be a success the national center must have the continued

support of American business and labour. We shall have this support.

Mr. A. Dean Swift, the President of Sears, Roebuck & Company, and Mr. Charles A. Pillard, President of IBEW, have consented to serve as co-chairmen of the Industry-Labour Council of the National Center on Employment of the Handicapped.

The Industry Labour Council of the White House Conference outlined the need for knowledge of the preparation of the handicapped for the world of work, for awareness training; for early starts in educating and training handicapped people; for studies of insurance, transportation, barriers to employment, and the benefits and costs of employing the handicapped.

The National Center on Employment will, together with American industry and labour, seek solutions, make recommendations to the President and the Congress of the United States, to State Legislatures, and to the leaders of business and industry to enhance the employment opportunities of qualified handicapped Americans. The National Center is currently studying attitudes toward the disabled as well as the attitudes disabled hold themselves, the techniques of job placement, independent living and career education.

The Center is preparing to train representatives of business and labour in job modification, affirmative action, vocational evaluation and a host of related topics to enhance the employment opportunities of qualified handicapped Americans. The National Center will be a significant resource in the drive for dignity and independence for the handicapped.

The economic recommendations of the White House Conference are rich — and no pun is intended. These recommendations were voted upon by the entire delegate assembly, but they come from two sources, the Industry Labour Council and the delegates from the State Conferences on Handicapped Individuals. Among the recommendations of the Industry Labour Council were an elimination of the disincentives to work, a standardised Worker's Compensation Second Injury Fund Law, and a consideration of the possibility of a National Health Insurance Law.

A National Center on Employment can study these issues, but it cannot pass legislation. Your own Congressman Burke has introduced legislation to attempt to remove some of the disincentives to work which are inherent in the social security law. Currently a person who is receiving disability income can lose money and medical benefits by returning to work.

We must seek ways to offer incentives to those handicapped Americans who want to attempt to pay their own way in society. We ask a lot of a person when we demand that he or she literally take food from his or her family simply by returning to work. We must solve this problem or we shall continue to see people who want to try immobilised by the quirks of our laws.

The possibility of a National Health Insurance is a controversial issue, but it is one which we must confront. The delegates of the White House Conference called for the enactment of the Kennedy-Corman Health Security Act. Disability can be a random event, and yet we frequently let too much of the cost burden of disability fall on the disabled individual. Regardless of our personal view on the merits of national health insurance we wust seek ways to spread the cost burden of disability more equitably across society.

The Industry-Labour Council recommendations for better job preparation, job matching, job analysis, sensitivity training, affirmative action education, and cooperation between the rehabilitation and business community are all concerns of the National Center on Employment of the Handicapped, but they must also be of prime concern to service delivery programmes, business and labour.

These constituencies must also take action in the areas of homebound employment, the transition from sheltered to competitive employment, job modification, medical awareness and consciousness raising.

The economic recommendations from the State delegations frequently paralleled those of the Industry-Labour Council. These recommendations included calls for: enforcement of current laws and regulations, education of employers, tax credits for job site modifications; fair employment tests; co ordination of State Employment Service and Vocational Rehabilitation Agency activities and accessible transportation to and from jobs.

I have been handicapped since birth. I think I can speak for many handicapped Americans when I say that our greatest challenge is to use the talents and abilities that God has given us. The challenge that the White House Conference presents to you, to me, and to disabled individuals throughout the world is a simple one. It is to give those who are handicapped an opportunity to compete, an opportunity to fulfil themselves and an opportunity to meet the challenges of life.

LEGISLATION FOR COMPREHENSIVE REHABILITATION OF THE HANDICAPPED

By JUSTICE KRISHNA IYER
Judge, Supreme Court of India.

The constitutional status of **retardation jurisprudence** is a critical factor in any assay of Retardates and the Law. A nation projects its value system, its fundamental objectives and its spiritual-material perspective through its basic law . So India's founding faith and, administrative engineering in the field of its 'handicapped' minority can be gathered by an insight into the relevant parts of the constitution. A striking fact stands out. 'We, the People of India' are the vicarious markers of the National Charter and so it is inescapable that the physically and mentally disabled segment of the Indian people, handicapped by natural misfortunes, could not have been forgotten while obligating the State to pursue welfare policies.

This necessary conclusion is boldly brought out in the luminous preamble itself which underscores 'Justice, social, economic and; Equality of status and opportunity; and the dignity of the individual'. More clearly, this concern for physically, mentally and otherwise backward sections of the community has been shown in the equality clauses, Arts. 14 to 16, the special mandates in favour of educationally and socially weaker segments in Arts. 15(4) and 16(4) and the State's duty to relieve citizens from old age, sickness and **disablement,** and in other cases of **undeserved want,** in Art. 41. Thus a comprehensive backing for humanitarian jurisprudence in the area of retardates and handicapped classes is spelt out in the Constitution. They are not 'unpersons' but have 'human rights'.

It is necessary to explain the implications of the constitutional provisions more specifically so as to lead up to the validity of the demand for legislative, administrative and judicial action to make the nation a haven for the victims of natural misfortunes and inherited injustices.

Social justice is a broad concept which assures to members of society a fair deal. Any remediable injury, in-

justice, inadequacy or disability suffered by a member for which, by his deliberate action as a free agent, he is not directly responsible, falls within the liberal connotation of social injustice. A social welfare state lives up to its name only if it eliminates or ameliorates such diverse brands of inflictions and afflictions by activist policies, legislative and administrative. And so when the Indian Constitution promises, in the preamble, to secure social justice to **all** its citizens, it undertakes and directs the Republic to underwrite all measures which will help its deformed or deficient members to unfold their full human potential. Viewed from the value position of equality of opportunity expressly articulated in the preamble, we reach the same humanist obligation.

A mentally or physically handicapped person is entitled to a head start, special facilities to level up with normal people and considerate treatment in the competition of life, if equalisation and equal opportunity are to be a living near-reality and not romantic phraseology. All steps required to make the disadvantaged man dignified and not despised — that is the import of **dignity** of the individual — the weaknesses which excite scorn, the pathological conditions which make him pitiful and the disabling visitations which put him in pathetic dependence, need to be remedied by State action.

Dignity is the constitutional recognition of divinity which we predicate in every fellow-being when we axiomatize that all men are created equal. These finer constitutional facets are, in a different context, expounded in a ruling of the Supreme Court in **Kerala versus Thomas**[1] and no good reason exists for not extending that logic to 'handicapped' classes. The philosophy of the Constitution argues for it.

These postulates of democratic citizenship find better expression in the Constitution when it specifically provides in Art. 41 that 'The State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, and in other cases of undeserved want'.

The retardates, the handicapped and the disabled have a constitutional claim for suitable employment, special facilities for education and to overcome disablement and, all forms of assistance to neutralise their 'undeserved' afflictions. The State's duty to provide for 'just and humane conditions of work' strengthens my submission.

1. 1976 I.S.C.R. 906 = 1976 2 S.C.C. 310.

In my view, such emphasis, even if absent, the project of habilitation of retardates and of amelioration of physical handicaps are implicit in the equal protection clauses. To miss this principle is to blink at the humanist thrust and turn a blind eye on the secular compassion of our founding faiths. Part IV of the Constitution in Art. 41 restates this habilitative obligation when it commands public assistance to sufferers of **disablement** and **undeserved want.** Are deafness, muteness, blindness, mental retardation and moral midgetry **not** demonstratively illustrative of undeserved want? Art. 38 reads:

"38 **State to secure a social order for the promotion of welfare of the people —**

The State shall strive to promote the welfare of the people by securing and protecting as effectively as it may a social order in which **justice, social, economic** and political, shall inform all the institutions of the national life."

Does it not ring a bell and make us remember these brothers? Such a social order as is callous to the crying in justice suffered by the victims of inherited disabilities hardly deserves to be complimented as civilised. There is creative potential in every human being. The accidental misfortune of deprivation of faculties or limbs at birth or later, without deliberately blameworthy conduct of the victim, inhibits the manifestation of the perfection latent in him. And it is holistic justice to the crippled member, and integral to community justice too, to relieve the man to the feasible maximum against this natural calamity. The expression 'socially handicapped' in its semantic plenitude must embrace these categories in dire need of help. And Arts. 14 to 16, 39, 41 and 42 must receive a construction of humanitarian liberality to found a system of habilitative justice and **Gandhian** jurisprudence — a new **jurisconscience,** if one may mint an apt term.

The horizon of humanitarian jurisprudence has a message of hope for handicapped brethren. Such is the dynamics of constitutional compassion and it is for the three great braches of State to effectuate the policy of **egalite** in this wider sweep and higher consciousness. The father of the nation has inspired us and we shall not fail him. Rather, as jurists, judges, law-makers and administrators we must live upto him and the compassion and conscience of the constitution. This is a challenge to our vision.

The human spirit hopes against hope that a just society of sorts may be engineered into existence, even though it is raw realism to agree that the time is out of joint. 'There is something rotten in the state of Denmark', and our conscience whispers, seeing the tearful 'third world' all

over the world, 'stay felicity awhile and, in this harsh world, draw thy breath in pain!'. Truth to tell, men who can see are blind to the blind, men who can hear are deaf to the deaf, men who have brains are brainless to the brainless—we, the whole ones, are heartless to the handicapped and states, without exception, blink at the disabled humans, and the planet earth spins and spreads injustice to the invisible, incapacitated millions who are our brothers and sisters but are disowned unconscionably with the **alibi** of Cain: 'Am I my brother's keeper?' 'Equal justice under the Law' has been blacked out so far as the handicapped equal-borns, several millions strong, are concerned, for law is at the service of the dominant class who have no disturbing concern save profits and dividends, and these Abels of the Earth—the disabled and retarded —are a drag who haunt us. The humanitarian equalism and the power of justice to speak and act for the distressed, the disabled and the disadvantaged, is a potential menace to the comfortable blindness to their ugly presence. Some crumbs by Dives to Lazarus—this is the best a troubled State can offer and call it grandiloquently 'National policy on Social Welfare'.

My first entreaty is that the world abandon the Himalayan hypocrisy of compassion and wake up to the natural law of equal rights and equal protection, which is the title deed of human worth manifested as the dignity and divinity indelibly writ on every person. Those who deny this universal proposition — they are the power-wielders in every community—are spiritually handicapped, morally retarded and surely fighting a losing cause! If Right is Might, the story of the lowliest and the lost will be rewritten with a Future Shock! So let us, with a universal consciousness and inner awareness, do right and justice to our broken brothers, not in condescension but in recognition, and in appreciation of human duties. A call for action, to make equal justice culturally operational—that is my humble pleading.

A brief finale. What have we, as a nation, done? Is the problem of the handicapped dimensionally deserving of serious attention? What more can we do? And what have we done?

'The petty done, the undone vast' is the first answer. We do not have studies done, researches undertaken, comprehensive policy formulation made nor significant legislation yet on the subject.

Currently, as regards work and employment of handicapped is concerned the following measures adopted by

the Government of India aim at providing assistance in this regard.

(a) Scheme of Central Scholarships for academic studies beyond class 9th and also for professional/technical studies.

(b) Stipends for in-plant training in commercial/industrial establishments.

(c) Special Employment Exchanges (there are 17 at present) and posting of special employment officers in normal Employment Exchanges in cities with population of 5 lakhs or more.

(d) Financial assistance to Voluntary Organisations for the handicapped for training and rehabilitation of handicapped persons. Such assistance is also given for training-cum-production centres, sheltered workshops, multi-category workshops etc.

(e) Recently, the Government of India has decided to reserve 1% of posts for each handicapped category (blind, deaf and orthopaedically handicapped) in Group 'C' and 'D' posts in public sector undertakings. This reservation is being done through an executive order and not by statutory legislation. Formal orders are yet to issue, although the proposal has been approved by the Cabinet. Seven State Governments have also issued orders reserving certain percentage of posts for physically handicapped and other States are being pursued to follow suit.

(f) In order to encourage employment of handicapped persons, National Awards are given by the President of India to most efficient physically handicapped employees and to outstanding employers of the physically handicapped every year.

Much more can be done since our handicapped fellowmen are capable of being educated, employed, turned into cultured citizens, being highly gifted, many of them are better able than others to work in certain areas. Homers and Miltons are here in India too, but we close our eyes on them and deny the country the developmental contribution they can make to the welfare and progress of the nation. They are not a drag but an asset, not unpleasant 'unpersons' but full humans with a difference. We are blind and must open our eyes, if the power of justice is not to smite our conscience. I quote in conclusion Ralph Ellison who wrote on the blacks and white 'cataract' in America :

"I am an invisible man.....I am a man of substance, of flesh and bone, fiber and liquids—and I might even

be said to possess a mind. I am invisible, understand, simply because people refuse to see me.....When they approach me they see only my surroundings, themselves, or figments of their imagination—indeed, everything and anything except me.

That invisibility to which I refer occurs because of a peculiar disposition of the eyes of those with whom I come in contact. A matter of the construction of their inner eyes, those eyes with which they look through their physical eyes upon reality.....you wonder whether you aren't simply a phantom in other people's mind.....

you ache with the need to convince yourself that you do exist in the real world, that you' are a part of all the sound and anguish, and you strike out with your fists, you curse and you swear to make them recognize you. And, alas, it is seldom successful."

This applies to us in a different sense—A Human Tomorrow for the handicapped in the State's unredeemed tryst with Indian desting if social jus'ice is the signature tune of the Constitution. Let us spiritually and materially ac'ivise and implement, at least in partial measure, the United Nations Declaration on the Rights of Mentally Retarded Persons:

"The mentally retarded person has a right to economic security and to a decent standard of living. He has a right to perform productive work, to engage in any other meaningful occupation."

(United Nations Declaration on the Rights of Mentally Retarded Persons, G.A. Res. 2856 Art. 3, 26 U.N. GAOR Supp. 29, at 93, U.N. Doc. A/8429 (1971)).

In fairness to the humanist leadership of India I must emphasize two points. Probably, legal literacy and legislative provision in the area of habilitation of the handicapped is still alien to the thinking of the Administration, State and Central. What is being done, however, is fabrication of **ad hcc** schemes on the administrative side which, so far as they go, are good, but fall terribly below requirements. Judging by the population of the deprived and their appalling penury, certainly on-going schemes, though inadequate, cover (a) scholarships for the blind, the deaf and the orthopaedically handicapped; (b) financial assistance to voluntary organisations of the physically handicapped; (c) welfare plans for the physically handicapped under the 5-year plan by establishment of national institutes; (d) scholarships, training grants-in-aid etc., to voluntary organisations and (e) greater emphasis of rural areas in the encouragement of voluntary organisations, local bodies, cooperatives and departmental agencies for the implementation of specific schemes.

It looks as if the size of the handicapped population, even on perfunctory assessments, may be around 40 million—a staggering figure compared to the financial provision and plan schemes which are meagre. It looks as if the State will have to awaken to its enormous responsibility to this woefully neglected minority and promulgate legislation to meet the challenge of this distressing problem.

I can easily envisage concrete legislative measures since many are being tried with tremendous success in the socialist countries and even in the advanced nations of the West, especially U.S.A. There is no point in exercises in imagination when the realities drag us into slow motion. The rule of law will find its finest hour in India only when every one of our retardates and handicapped sisters and brothers and parents can claim equal freedom from indignity, injustice and distress.

ELIMINATION OF HANDICAPPING CONDITIONS THE ROLE OF MEDICAL MEN, SOCIAL WORKERS AND AGENCIES

By DR. P. DIESH,

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Elimination of handicapping conditions depends on action to reduce the occurrence of impairment (first level prevention) and its development into functional limitations functional limitations to disability (third level prevention). (second level prevention) and to prevent the transition of Disability prevention is not exclusively health sector interventions. It includes interventions at social, vocational, educational and legislative levels. Best results are obtained if all these interventions are combined.

(a) **First Level Prevention:** (Slide — Table 2, page 35)

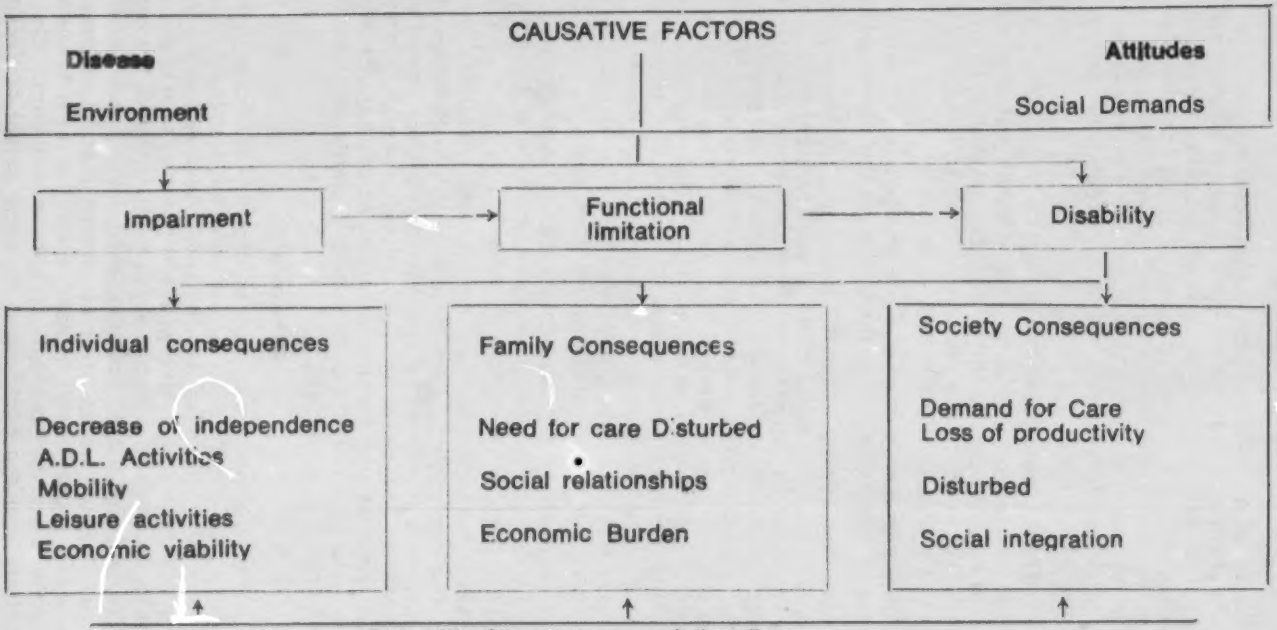
This term is more or less equivalent to primary prevention. Means actions taken to reduce the occurrence of impairment, for example vaccination against communicable diseases, health education, proper child rearing, improved nutrition, hygiene and physical fitness, legislation to reduce accidents and diminish occupational health hazards. Thus most of the problems can be eliminated by effective preventive measures.

(b) **Second Level Prevention:**

Second level prevention is required once an impairment. is apparent. Interventions are directed towards the prevention of the development of functional limitations e.g. early effective treatment, proper care of injury and accidents to prevent functional limitation and if functional limitation already present efforts to reverse or minimise them.

You all know impairment results from disease and due to a number of medical causes e.g. congenital disorders, somatic disease (communicable or non-communicable), psychiatric disturbance, injury, accidents, nutritional deficiency. This impairment can be permanent or transitory,

THE DISABILITY PROCESS



psychological, physiological or anatomical loss. An impairment may cause functional limitations which may be partial or total inability to perform, the activities which are necessary for a normal individual. Thus functional limitation produces disability i.e. an existing difficulty in performing activities. This disability can be short-term long term or permanent. The disability affects the individual, family and society.

(c) **Third Level Prevention :**

Once functional limitations are present and irreversible, the transition into disability can be prevented by proper and early rehabilitative measures to rehabilitate the individual, physically, socially and vocationally.

Thus elimination of disability calls for interventions in all fields of health and also those outside the health sector.

Magnitude of the disability problem : Our present knowledge of the magnitude of the disability problem is limited as relatively for research studies have been made in this area. Different definitions and criteria of disability are used. Sampling techniques are seldom rigorous and survey methods are in frequently applied. Thus all estimates carry a high risk of possible error. The estimated total number of disabled is about 400 million or 10 per cent of the world population. Allowing double counting and other errors, the lowest estimates must exceed 300 million or about 8 per cent of the world population.

A summary of the medical causes of disability and the estimated number of disabled people in the world appears in this slide (slide — table 1 page 13).

Any projection into the future of the magnitude of the disability is related to (i) Morbidity, (ii) malnutrition, (iii) Population growth rate, (iv) Life expectency, (v) Industrilization, (vi) Socio-economic developments. As these curves go up, the number of handicapped population will rise unless proper attention is paid towards elimination of handicapping conditions.

Problems

(i) In the past and also at present, medicine has in general not been able to cope with the problems related to disability because of the preoccupation with more acute problems and the low interest among physicians and health workers in managing patients beyond the acute phase of potentially disabling disease.

(ii) It would be an error to assume that future medical or social progress will in itself contribute to a favourable change from the present disturbing situation. On the contrary, modern medicine is to some extent contributing

to an increase in the magnitude of disability problems by saving patients previously condemned to die but leaving them with serious impairments as the price for survival. Modern society, as a result of increasing industrialisation, urbanisation, and road traffic will produce even more disablement in the future.

(iii) Rehabilitation medicine has failed to meet the increasing demands for want of proper planning and proper organization of services to provide adequate coverage, low-cost technology, and the recognition of priority solutions. Rehabilitation agencies have been unable to coordinate their efforts on either the international or national levels, and have failed to recognize the possibilities of prevention and the need for having community-based facilities.

(iv) Institutes of Rehabilitation have usually operated without taking into account the real situations in the world of their patients. The "technical" solutions provided in these institutions have often had little impact on the patient's future. Because the rehabilitation authorities and staff have failed to regard disability prevention and rehabilitation as a matter for the community and society as a whole, and as an integral component of the health services in community development programmes, these services have failed to achieve the needed impact.

There is a need to produce a greater awareness of the urgency of disability resources and utilise all possible preventive and curative means to eliminate the handicapping conditions.

A decision on priorities: As all solutions to meet the population needs cannot be implemented immediately, priorities have to be set. Decisions on priorities have to be taken in conjunction with all political levels involved i.e. (governmental, regional, and community). The available resources: manpower, facilities, equipment, and budgetary commitments from all sources, must be mobilised at the community, national and international resources.

Steps: The first step would be to review the systems already available and plan for their utilisation within the framework of the programme.

Most countries already have some rehabilitation service which might be utilised or developed, so developed, so as to serve on a referral level or as a facility for teaching and training, provision of equipment, etc. Disability prevention and rehabilitation programmes should be developed with appropriate coordination of such resources in order to avoid competition and uncertainty as to their future role within the broader context.

In addition, any programme must take into consideration its relationship with the broader community development programmes, health services, basic education and vocational training programmes, the employment situation, and in fact, the whole political, social economic, cultural, and religious setting.

A — Community Level : There is a strong cultural and religious tradition of offering help to the handicapped cases in the developing countries. People have been taking care of handicapped cases even in the absence of any assistance and legislation from the Government. People in rural areas are simple and kind. They are ignorant of even simple measures that can improve their conditions. Calamities are taken as God gifted. There is gross lack of means of diffusion of information.

Under these conditions, the first and foremost step will be 'Public Education' to mobilise the human resources. Unless the community knows what is rehabilitation, how it is going to improve their living, it will be difficult to involve the community in the programme. Extensive use of mass communication medias, posters, addressing public meetings highlighting the need and utility of the programme will be of great help in educating and mobilising the community.

Initially a cadre of voluntary community workers with some basic education can be prepared to create a network for conveying this kind of basic knowledge to people. Since these workers are more approachable to the families than outsiders, valuable information can be collected through them regarding social customs, needs and priorities. Human resources are available in abundance, but unfortunately till now they are neglected and have not been used. They must be involved in the programme. In many countries, resources are not there but people themselves are the principal resource for their own improvements provided they can be made a self-generating force.

Mobilisation of community resources further depends on :

(i) Is the programme according to the need and priority of the community ?

(ii) Is the starting programme simple and not ambitious at the initial stage ?

(iii) How much community has responded and adapted in response to the confidence generated ?

(iv) Most important of all is the motivation and involvement of the community leaders, politicians, traditional healers, local doctors, teachers, affluent persons of the area, local health workers and aya.

To promote and mobilise the resources, motivation is very important. Please do not forget, "where there is will, there is way". Unless the community leaders, members and other members are actively brought into the programme, they may not be willing to cooperate in providing the local resources. Needs (short-term and long-term needs) and priority of the community which are essential steps for formulation of the programme, can easily be collected from the community leaders and members.

Space : There are affluent persons in the community. By mobilising their support, it is not difficult to find accommodation at the village. In case the same is not available, a centre can be made from community support in the form of providing labour and material. These things can be achieved at a very low capital cost. The running cost can be mobilized from the local bodies, donations and gifts and part time service on voluntary basis. Further recurring cost can be mobilised from the National/Provincial Governments. Joint work by representatives of the Government and community is one of the best ways to develop community programme. Most of the Governments are keen to implement the programme if it is simple, practical and can be fitted into the existing health service of the country.

Techniques and Technology : Much modern technology and techniques are inappropriate for the immediate needs of rural population. Requirement is simple. You need technology developed out of the local experience and making use of local materials which are better suited to the community. Many of the therapeutic gadgets can be developed locally with local material and with the help of the community members. You need an educated person who is able to recognise the needs and problems, is able to extend basic services and is able to refer the deserving cases to the referral centre. The person must be from the same community as outsiders are not suited for the programme. In each community, there are motivated and educated workers, who will be willing to undertake this programme. Such community workers can be given basic training.

Other Resources : If we trace the development of rehabilitation services, it will be observed that rehabilitation service was initially started by voluntary agencies, philanthropic bodies inspite of the fact that no aid was given by the Government. We should not lose sight of these potential resources. To develop the community programme, it is essential to mobilise the voluntary agencies, local bodies already functioning, philanthropic agencies and affluent donors.

Social Rehabilitation: The ultimate goal of rehabilitation is integration of the disabled in the society. Success of rehabilitation depends, how much society has adopted and restored dignity to the disabled, even when he is not a productive member of the society. This again depends on public education. Architectural barriers have also been a problem in rehabilitation. Educating the public and removing these barriers, is also an important factor.

National Resources: It has been observed that in a large majority of countries at national level, health is being looked after by Ministry of Health/Department of Health; social measures rests with the Ministry of Social Welfare; education with the Ministry of Education and employment with the Ministry of Labour. There is hardly any coordination in the activities and programmes of these ministries even though they are under the same national Government. This has often hindered the progress of rehabilitation.

In addition to this, (i) there is no national legislation on disability prevention and rehabilitation of the disabled; (ii) there is no national register for registration of disabled; (iii) there is no provision to appeal; (iv) no national statistics to ascertain the magnitude with a view to formulating the programmes; and (v) the present system of medical/health care is only acute problem oriented. Rehabilitation has never been given priority in health programme.

In view of the above circumstances, it is more important to mobilise the resources at the national level. The best way is to pool all the national programmes, all budget and contributions from whatever source and form a National Rehabilitation Council/Board or, National Coordinating Committee, for intersectoral and inter-disciplinary coordination to plan, implement and supervise the programme. Similar board has to be formed at the community level and referral level.

These boards should have representatives of members from various ministries, voluntary agencies and leaders from community. Community is the beneficiary of the programme. Hence involvement of the community leaders at the community level, referral and national level is essential. National programme should start with community planning, then proceed to referral/regional planning and then national planning. Political pressure to declare "prevention of disability and rehabilitation of disabled" as national priority programme can also be resorted to for the benefit of the community.

A comprehensive Rehabilitation Act would also provide the best means of ensuring balanced development and

effective means of coordination of all aspects of rehabilitation.

The existing institutions and department of medical rehabilitation must be identified and their potential to train rehabilitation personnel must be fully utilised. These institutions should immediately be involved in community services by starting 2-3 pilot projects at the community level.

Low interest among physicians, medical teachers, universities and health workers in managing patients beyond the acute phase of potentially disabling disease has to be drastically changed. Infusion of rehabilitation techniques into the mind of young doctors are essential for elimination of handicapping conditions.

The National Government is responsible to provide long-term planning of basic services, to provide budgetary support and to ensure coordination. The centre has also to provide the cost of training, direction and supervision; research and cost of equipment and supplies that come from outside the area. Provision of specialised services at referral level is essential. Training and research is required at the zonal national level.

International Resources: Inter Governmental agencies such as the United Nations, IBRD, ILD, WHO, UNICEF and UNESCO, provide technical assistance in the form of consultants to advise on short term, long term planning and programming, fellowship, assistance in research and training programmes. United Nations, ILD, UNDP, UNESCO, UNICEF and WHO have been active in the area of rehabilitation, particularly in the field of prevention of disability. The first step is to obtain governmental agreement. Following the Government decision, a request has to be made to an appropriate organisation.

PREVENTION & EARLY DETECTION OF BLINDNESS AND THE ROLE OF VARIOUS AGENCIES

By Prof. LALIT P. AGARWAL
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The colossal problem of blindness is well known to the ophthalmologists, planners and administrators of this country. There are 9 million blind and 45 million visually impaired individuals. Of the 9 million, 85% are curable and in 27% blindness could have been prevented if timely measures of promotion of ocular health, prevention of eye diseases and cure of many ocular pathologies had been taken at an early stage. This is equally true for reducing number of visually impaired.

Such visual involvement, blindness and visual impairment place a huge economic and social burden on the nation. A new concept of community ophthalmology has since been evolved and based on that concept, the Ministry of Health of Government of India has launched a National Programme for Prevention of Visual Impairment and control of blindness to be completed in a period of 20 years. It has recognised that: "One of the basic human rights is the right to see. We have to ensure that no citizen goes blind needlessly, or being blind does not remain so, if by reasonable deployment of skill and resources his sight can be prevented from deteriorating or if already lost can be restored."

The Government of India has discarded the concept of a disease oriented programme in Prevention of Visual impairment and Control of Blidness. The plan of action formulated is problem-oriented and will take care of visual impairment and blindness in any integrated manner through promotive, preventive, curative and rehabilitative efforts.

The following strategy has been evolved :—

(1) Eye Health Education with a view to disseminating information about the problem of blindness and visual impairment, their causes and their prevention through all mass media of communication. Distinct from the dissemination of information is the education involving school

children, teachers, and the peoples. This is the most important simple item in the strategy. The cooperation of medical social workers, sociologists, ophthalmic personnel, paramedical personnel general health workers, teachers, students, leaders of the community. State and local Governments and voluntary agencies as imperative if the plan is to succeed. Multiple agencies like the educational, sociological, political and peoples' welfare institutions and agencies will need to cooperate in this effort.

(2) Augmenting ophthalmic services in a manner that relief can be given to the people in the remotest corner of the country in the shortest possible time. This is being looked through a camp approach of community eye health distinct from mere cataract camps. To achieve this a cluster approach has been adopted by providing one mobile unit for five districts covering roughly a population of 7.5 million. Each district is to organise 6 eye camps in the primary health centres located in three districts. The functions and objectives of these mobile units have been enlarged to cover :—

(i) General survey for the prevalence of various eye diseases and blindness.

(ii) Educate people in the methods of prevention of eye diseases and proper care of the eye in order to ensure better and lasting eyesight.

(iii) Provide medical and surgical treatment for the prevention and control of eye diseases including cataract operations.

(iv) Detect early visual defects and provide suitable glasses and low vision aids at cost price.

(v) Help in the renabilitation of the blind in their own surroundings by training the blind in the art of daily living and mobility and give proper and suitable vocational training. The mobile units are fully staffed and equipped.

It is proposed that district co-ordination committees will be formed, the membership of which will be constituted as under :—

(i) District Magistrate — Chairman.
(ii) Civil Surgeon — Vice-Chairman.
(iii) Members :
  (a) Representative of Lions Club.
  (b) Representative of Rotary Club.
  (c) Member of Parliament.
  (d) Local MLAs.
  (e) IMA — representative
  (f) NSPB — representative.
  (g) Members from organisations managing eye hospitals and conducting eye camps.

(h) Any other social worker or individual the chairman desires.

These mobile units are not exclusively meant for Government use but are placed under their administrative charge for coordination.

(3) Simultaneously to the creation of a permanent infrastructure of ophthalmic service for promotion of ocular health, prevention of eye diseases and care of curable eye illnesses, the programme will also provide for manpower development of paramedical, general medical and ophthalmic specialists besides applied and fundamental research. In the programme the efforts will integrate the eye care programmes with the general health services as far as possible augmenting specialised need wherever required.

In order to achieve the ends, the service will be developed at peripheral, intermediate and central levels.

(a) **Peripheral Level** : The peripheral level of services will be delivered through the general health services like the agency of village health worker, multipurposs health worker, and general practitioners including the primary health centre doctors. At the primary health centre itself, taking into consideration the requirment of specialised nature, a specially trained ophthalmic assistant (paramedical worker) will be posted.

In the training programme of the village health workers and multipurpose health workers, preliminary knowledge about eye health care has been included with a view to detecting visual defects at an early stage, to rendering first aid in ocular emergencies and also giving some medicines in minor eye ailments. If the patients require further attention, they will be directed to the primary health centres. The objectives of the primary health centres are:—

(i) To provide a base for health education in ophthalmic field.

(ii) To integrate ophthalmic services to the community with the infrastructure of basic health services; e.g. nutrition and family planning programmes, and existing general medical and health programmes.

(iii) To screen the cases requiring specialised ophthalmic care.

(iv) To render ophthalmic care for minor ailment.

(v) To assesss and correct the visual status of the population.

(vi) To educate teachers and parents and social workers in early detection of visual defects by simple means.

(b) **Intermediate Level** : The intermideate level of services are the first level where permanent specialised

services will be available and where cases can be referred from the peripheral level. This will be delivered through the sub-divisional hospitals (30 beds each) and district hospitals (50 beds). These hospitals will deliver eye health care through the same integrated approach of promotion, cure and rehabilitation. The objectives of these hospitals will be to:

(i) Impart health education to field workers;
(ii) Screen and diagnose all ophthalmic patients;
(iii) Participate in the work of mobile unit;
(iv) Provide leadership to P.H.C.'s and other small units;
(v) Provide for common intra-ocular & extra-ocular surgical operations;
(vi) Choose proper referrals;
(vii) Arrange for the screening of the population with visual & ocular problems;
(viii) Survery local industries with regard to visual status of the worker and advice safety measures.

The practitioners of ophthalmology should be able to lend a helping hand to these hospitals and at the same time be able to refer their problems of general ophthalmic care to them.

(c) **CENTRAL LEVEL OF SERVICE:** The central level of services will be provided through the medical colleges, the regional institutes and the apex organisation (National Institute).

(i) **Medical Colleges:—** The departmemts of ophthalmology of these colleges will be converted into departments of community ophthalmology. These colleges will offer good ophthalmic care to the community, provide technical leadership and support to the district hospitals, taluka hospitals, primary health centres and smaller units. They will be primarily responsible for manpower development of all types of workers, i.e. ophthalmic assistances and technicians, ophthalmic nurses, general practitioners trained in opthalmology and specialists in general ophthalmology.

(ii) **Regional Institutes:** The main purpose of strengthening the existing post-graduate ophthalmic institutes is to provide technical support in the zone of their activity. Their main objectives will be:

(a) To evolve and demonstrate the methods of rendering a highly competent ophthalmic service to the community through an integrated approach of promotive, preventive, curative and rehabilitative concept with the full back-ground of socio-economic environmental and other local factors.

(b) To provide facilities for refresher courses to ophthalmologists with a view to keep them upto date.

(c) To disseminate widely, in coordination with the national institute, information with regard to recent advances in opthalmology which have an applied bias.

(d) To provide opportunities for raining of health personnel in the field of community ophthalmology.

(e) To provide facilities for the training of personnel for the rehabilitation of the blind.

(f) To provide facilities for the training of ophthalmologists and ancilliary ophthalmic personnel like ophthalmic assistancs.

(g) To provide facilities for the training and demonstrate the organisation and research in Eye Bank procedures including implantation and grafts.

(h) To stimulate & provide facilities in research in Ophthalmology at a high level of competence.

(iii) The National Institute of Ophthalmology will function as an apex organisation to help in the development of manpower, and provide high grade research support both applied and fundamental, to the National Programme.

There are certain special programmes which are being conducted in other phases in the field of nutrition and child development. It is the purpose of this programme to fully integrate our activities with the maternity and child health schemes and the programme of intensive child development.

Two other aspects of the programme are to abolish the use of sub-standard glass and practice by unqualified personnel in dispensing and prescribing for refractive errors. With a view to do this a comprehensive legislation will be brought about under the title of Regulation of Trade of Ancilliary Ophthalmic Personnel and Ophthalmic Materials. Such a legislation is beset with many difficulties particularly because full cooperation of the states is required but I am confident that they will be overcome as we go along.

Yet another aspect is the production of ophthalmic equipment in the country. Every effort is being made to develop such an industry — lay down standards for the same. No nation alone can become self-sufficient in producing all the equipment that it needs. In the first phase our attempts is to produce items of daily use needed by the hospitals & the ophthalmologists like trial cases, Cryoaffaratees, Dixothermy, Slit lamp, ophthalmometers, synoptophosis and is expertise develops to produce more and more sophisticated instruments.

From these it would be evident that based on the concept that for permanent solution of the maladies the pro-

gramme should not be disease-oriented but problem-oriented, a comprehensive plan has been drawn up to develop ophthalmic services in an integrated manner of promotive (eye health education) preventive (eye health education & have remedies for minor ailments) and curative services at the peripheral, intermediate and central levels besides give immediate relief to the suffering humanity through a mobile unit approach.

A basic weakness of the plan is the lack rehabilitative component for which efforts are continuing with the Ministry of Social Welfare to establish at least one centre in each district and ultimately in each taluka and sub-division. In twenty years the problem should have been taken care of in all its aspects.

I have given you a strategy and a programme and I propose to seek your unstinted cooperation, whether you are in service or in practice. The first and the most urgent task before you is to mobilise public opinion, enthuse them in your aims for their good and take the leadership in your aims for their good and take the leadership in your hand. Get on the task of organising district coordination committees, utilise the mobile units, get revenue divisional coordination committees and finally, the State implementation committees. Please do not hesitate to call us whenever you need our help.

PREVENTION & EARLY DETECTION OF DEAFNESS AND THE ROLE OF VARIOUS AGENCIES

By DR. DILIP S. NAIK,
M.S. (Bom.) DORL

The ability to speak and the precious gift of language is peculiar only to man and it is this wonderful faculty which, by enabling him to speak and to listen to ideas and thoughts, has made him supreme in the kingdom of living creatures.

One of the loveliest events of which every parent of a normal child is an entranced witness is the gradual change from babbling into words. The basic mechanism by which this miracle occurs is three fold. Sound is picked up by the ear and taken to the brain which after much practice sends appropriate messages via the motor speech area to the vocal organs. These again after much practice are able to repeat what they hear or to reply to a question. Thus speech and eventually language develop.

A child who is born deaf or acquire such a defect before the development of speech is at a grave disadvantage. Human speech and language are as Cherry (1961) states "the most prominent among all systems of communication and communication is essential for social life, mental growth and future employment".

The commonest cause of any delay in speech development is an imperfection in the organ of hearing. Depending on the severity of the hearing defect, the speech will be delayed, distorted or absent.

The Handicap of Deafness: Deafness is a most serious handicapping condition. On a sensory level, it isolates its victim from the total world of sound and sound experience. On an intellectual level, it deprives him of the primary modality in the vital process of developing interrelationship with other persons upon which social, occupational and emotional success depends.

Deafness as a handicap isolates a person from his family, his peers and his community. He is subjected to extremely negative attitudes by those who do not understand the nature of their disability and regard them as something freakish.

Sometimes they are purposely forgotten or excluded from many social groups and activities. They are prevented from getting a driving licience. Social isolation thus prevents full development of a deaf person and much needs to be done to educate the general public to these concerns.

Deaf persons profit as well as normal persons from training and adjust remarkably well in jobs. They can be good architects, computer specialists, librarians, chemists, medical techician, psychologists and even Government officials.

Severe or total deafness, which does not develop until after language has been learnt, is not such a handicap as deafness at birth which prevents the normal development of speech and language.

Since hearing is so critical to the development of human self, it is important that deafness be diagnosed at its earliest and efforts made to utilise to the full whatever hearing a child may possess.

Role of Parents in the Diagnosis and Rehabilitation of the Deaf Child

If parents get suspicious of their child's deafness and contact the medical person, a lot of good can be done in the interest of the child. Unfortunately in our country due to the high rate of illiteracy or the parent's inability to accept their child as deaf precious time is lost in detection and subsequent rehabilitation of the child.

To a great extent success of rehabilitation depends upon the parents' response to deafness, on their acceptance of the diagnosis, their involvement in training, their approach to and management of their deaf child.

Parents of deaf children experience great fear and anxiety in first learning that they have such a handicapped child and their sorrow is similar to the one experienced by parents of mentally retarded children. This sorrow may in turn greatly influence their approach to the child. It is the responsibility then of their family physician to maintain a normal parent-child relationship. He must counsel the family when necessary and help them obtain more specialised professional help.

Detection and Evaluation of the Congenitally Deaf Child

The diagnosis and management of hearing disorders in

children have traditionally been in the hands of the otologist, the audiologist and the speech pathologist, but it is the family physician or the paediatrician who may first see the child and follow his growth and development throughout the years. These people also play an important role in the early detection of hearing loss, in the evaluation of the child and in his long term management.

Role of the Paediatrician: Significant hearing loss can be detected in the new born period. Routine screening tests for hearing could be done in nursing homes enabling the congenitally deaf infant to be detected early or at least suspected before the child leaves the nursery. This could be done by the paediatrician who usually sees the child first and follows his development at intervals throughout his life.

A hearing loss may be suspected because of certain information in the history or because of certain observations on the part of the doctor or the parents. Details of pregnancy, labour and birth should be elicited. Questions must be asked regarding some unusual happenings during pregnancy particularly:

(a) Viral infections like German Measles (Rubella) in the first trimester.

(b) Drugs given during pregnancy like Streptomycin, Quinine etc.

(c) Toxaemia.

(d) Previous pregnancies od miscarriages.

(e) 'Rhesus' blood group.

Details of labour must be checked with regard to birth trauma, anoxia or prematurity. Any abnormal appearances must be noted of the baby at birth or during the first week, such as cyanosis, jaundice, paralysis or any congenital defects. All babies whose history or whose mother's history should be labelled 'at risk'. It is thought that there is a 14 times greater chance of finding a hearing loss amongst children 'at risk' than among the non-suspect ones (Livingstone 1962). All such cases 'at risk' should have their hearing tested at least thrice, firstly between 8 to 12 months, secondly between 2 and 3 years and thirdly about 6 months before entering school.

During each routine baby check-up, the doctor should assess the physical growth and developmental progress in the infant laying equal stress on his response to sound. He is only expected to detect or suspect deafness and then could pass the case over to the otologist and audiologist for further detailed hearing evaluation. Interesting noise

makers could be used. Initially the baby may startle blink or remain quiet. By 4 months he begins to localise the sound and turn towards it.

Equally important are parents observation at home whether their child responds to loud sounds, responds to the voices of parents when they are out of his field of vision or he is a very good baby and sleeps through everything. Despite such careful questioning and examination, an alert deaf child may escape early detection and suspicion may not be raised until language fails to develop.

The paediatrician should also test the mental status of the child. His 'IQ' testing should be done to rule out mental retardation and cerebral damage. A deaf child with a high 'IQ' has better chances of rehabilitation than a mentally retarded child.

A detailed physical examination should be carried cut to uncover associated abnormalities that may influence the future management of the child. These include congenital cataracts, congenital heart disease, microscephaly, cerebral palsy or a central auditory disorder masquerading or superimposed upon a peripheral hearing loss. Since most standard approaches to training of a deaf child rely heavily upon the visual clue, early assessment of visual acuity becomes imperative.

Fraser has stated that about one half of profound childhood deafness is genetic and one half acquired. Appropriate laboratory tests have to be done to distinguish between the two. Family study should be undertaken. Audiometry on family members especially parents and siblings and physical examination of pertinent relatives may quickly reveal the presence of a genetic cause for the hearing loss. Most families who have had one profundly deaf child are extremely concerned about future pregnancies and should be referred for genetic counselling.

Role of the Otologist: In most instances, the otologist is the first professional contact made by the parents or by the family doctor who suspect that something is wrong with their child's hearing. The otologist plays a major role in the diagnostic evaluation and in the medical and surgical treatment of hearing problems. With modern trends in the field of hearing evaluation like free field audiometry, speech audiometry and the latest impedance audiometry and with new radiographic techniques of multiple tomographic sections, more middle ear anomalies can be detected and appropriately corrected surgically. The deaf child should be checker otologically and audiologically at 6 to 12 months intervals to rule out any conductive elements and to know the progress of deafness.

Long Term Management and Rehabilitation of Congenital Deaf Child

The success of rehabilitation of a deaf child depends upon : (i) age of diagnosis, (ii) the consistent use of amplification; (iii) availability of therapy.

After the detection and diagnostic procedures it would reveal that majority of the congenitally deaf children have a sensory neural hearing loss where no medical or surgical treatment will help and need an appropriate hearing aid.

(A) Use of hearing aid :

A hearing aid represents the major link between a deaf child and the world of sound. Fitting of an hearing aid is the realistic method of enabling the child to utilise his residual hearing so as to maximise the information he can derive from it. Due to this concept of fitting hearing aid to a deaf child, a lot of progress has been done in the technology of the aids.

For an hearing aid to be really effective, it should be fitted as early as possible in the child's life, worn constantly and kept working at maximum efficiency at all times. There is almost no deaf infant too young to use an hearing aid. Four to five years used to be considered the age at which the hard of hearing could be introduced to the idea of using a hearing aid, but now it is customary to try to detect the deafness and fit the hearing aid as early as possible during the first year or 18 months of life to speed up speech and language development.

Availability of hearing aid and therapy are expensive for even an average middle class family and they are prohibitively expensive for many. The medical man should help the families to contact social agencies like the Lion, Rotary and other social clubs for assistance.

(B) Auditory and speech training

Even with the aid of amplification, most cases with severe losses only hear distorted fragments of sound and to make sense out of these sounds, he needs auditory training. Along with amplification he also needs lip reading. By paying attention to a person's lip and face movements the child can be trained to fill the gaps in what he can hear. The child speaks what he hears. If his hearing is distorted, his speech will also be distorted and unintelligible. Hence there is the need of speech training by an efficient and experienced speech pathologist.

(C) Schooling for the deaf :

The deaf child needs schooling and he could be graded as per his mental status and degree of deafness.

(i) Deaf children with mental retardation should be trained in special centres for the mentally retarded.

(ii) Children with moderate to severe degree of deafness could be initially trained in a deaf school and then transferred to regular school giving them certain privileges like using a hearing aid, sitting on the first bench, etc. This will enable them to hear and lip read their teachers better. These children should not be looked upon as dull or backward but should get all help, sympathy and care from their teachers and school authorities.

(iii) Profundly deaf children should be trained in special deaf schools as the CITD, St. Stephan's School for the Deaf etc.

Many of these schools have a special programme in which they train personnel who in turn become teachers of the deaf. Mothers of such deaf children could take advantage of such training so that they themselves at home could continue the training. This could, in turn, prove economical for them as well as speed up language and speech development in their child.

(D) **Role of social organisations :**

As the availability of hearing aid and therapy are quite expensive, we have social clubs like the Lions, Rotary, etc., who have come forward with aid and assistance. At the international level, to name a few we have (1) W[illegible]O., (2) Grahm Bell Association in USA, (3) Commonwealth Society for the Deaf in London who could also give valuable assistance and guidance in the field of rehabilitation of the deaf.

Prevention of Deafness

The ultimate goal of all who work in the field of congenital deafness is prevention. Fifty per cent of profound childhood deafness is secondary to exogenous causes which are preventable. At the present time, prevention of genetic deafness is primarily through genetic counselling, although there are indications that the future may bring new advances in this area as well.

Exogenous causes

1. **Ototoxic drugs,** like Streptomycin, Quinine etc., given during pregnancy cause deafness in the newborn. Avoidance or limitation of these drugs can prevent such calamity.

2. Maternal Rubella is the cause of 5 per cent to 20 per cent of congenital deafs. Live attenuated vaccines are

now in use which induces good immunity, cause little clinical reaction and is non-contagious. Given to children it could reduce or eliminate the virus reservoir in these age groups and thus decrease the potential exposure of pregnant women.

3. **Hyperbilirubinaemia** and **Kernicterus** is caused by Rh-incompatibility. Treatment is by exchange blood transfusion. Future uncompatibilities could be prevented by injecting Anti-D gamma globulin to Rh-ve mothers within 48 hours of the birth of an Rh positive child.

4. **Prematurity, Anoxia, Birth Trauma :** Proper nursing, asepsis, accurate prenatal diagnosis and timely and appropriate intervention can minimise the after-effects of the above conditions.

Genetic Causes

For families with congenital deafness of known or suspected etiology, prevention is possible at this time through genetic counselling. The accuracy of the counselling depends upon the accuracy of the diagnosis.

Certain metabolic and chromosomal abnormalities can now be diagnosed in early pregnancy and pregnancy can be terminated. Amniotic fluid containing foetal cells can be collected in the first trimester and examined for sex-chromatin bodies. They can be cultured for cytological and biochemical studies. D & E Trisomes have been associated with middle ear and inner ear abnormalities and can be diagnosed in utero. Similarly certain specific biochemical abnormalities associated with congenital deafness can be diagnosed in utero by actual enzyme assay after aminocentesis.

Hard of hearing child progresses best when his case is jointly tackled by a congenital deafness team ideally composed of :—

1. Otolaryngologist,
2. Paediatrician,
3. Audiologist,
4. Geneticist,
5. Ophthalmologist,
6. Speech pathologist,
7. Medical Social Worker,
8. Clinical psychologist,
9. Teacher,

with collaboration of other specialised consultants like Radiologist, Neurologist, Cardiologist and Orthopedic surgeon.

Such a team approach is a relatively new concept in the diagnosis and management of the deaf child. It encourages study of congenital deafness in all its facets. The abnormal ear must function as best as it can, inspite of abnormal anatomy or faulty genetic, physiological, neurological or biochemical mechanisms.

Co-operation and communication among the various specialities have contributed to the application of new diagnostic, therapeutic and preventive methods to the problem of congenital deafness. Exciting new laboratory techniques will contribute to basic knowledge, diagnosis and perhaps therapy.

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PART — I

PREVENTION OF MENTAL RETARDATION AND THE ROLE OF VARIOUS AGENCIES

By

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and

(Miss) S. B. KEWALRAMANI.

This paper will be presented in three parts. This part will mainly deal with prevention of mental retardation. Dr. B. P. Shah, Dr. P. C. Shastri and Miss. K. Merchant will deal with the early detection of mental retardation by psychological methods. Mr. A. Harisinghani, Miss R. George, Miss R. Sethi and Mrs. J. H. Vakeel will deal with the role of various agencies.

Mental retardation is not one disorder, but the end result of various diseases. It implies impairment in intelligence from early life and inadequate mental development throughout the growth period. It is manifest by slow and incomplete maturation, impaired learning ability and poor social adjustment.

Roughly 3% to 5% of the Indian population are mentally handicapped. This is probably the most handicapping of all disorders, because these people are unable to adapt their behaviour to the setting in which they live.

To go into the preventive aspects of mental retardation it is first essential to know the causes leading to mental retardation. The etiology in quite a number of cases may not be definite inspite of good history taking, physical examination and investigations.

The causes of mental retardation may be divided into four major groups. Those operating :

(1) Before conception,

(2) During pregnancy (prenatal),

(3) At birth (natal),

(4) After birth (postnatal).

(1) In the first group, i.e. before conception; the main causes are either genetic or chromosomal disorders. Among the genetically determined diseases the common ones are

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due to inborn errors of metabolism. Tay Sach's disease, Niemann pick disease, phenylketonuria, galactosemia, homocystinuria etc. The occurrence of these diseases depends on the inheritance. If the mode of inheritance is autosomal recessive, then the chances of the baby having the disease are higher in the presence of consanguinity, or when both the parents are carriers. If the inheritance of the disease is sex-linked, then the chances of the baby having the disease depends upon the sex of the baby. If the disease is autosomal dominant, the baby may develop the disease when either of the parents is affected.

In the prevention of diseases which are genetically determined, proper studies of affected families and genetic counselling with the help of the medical geneticist can go a long way in preventing more such children being born. Premarital counselling can also contribute in the prevention of mental retardation.

Damage to the chomosomes can also be caused by certain viral infections, drugs like L.S.D., Cyclamates and radiation. Late marriages can also lead to problems of this nature e.g. a woman who conceives at the age of 40 years runs a higher risk of having an abnormal child compared to another woman of 20 years. The chromosomal disorders can be prevented by detecting the carrier parents. e.g. Down's syndrome more popularly known as Mongolism.

Amniocentesis : Amniocentesis is a recently developed simple procedure which can be carried out in pregnant women who run a high risk of having an abnormal child due to some chromosomal disorders, inborn errors of metabolism and a few other conditions. In this procedure a small amount of amniotic fluid is removed and it is subjected to investigations at the end of which we can say whether the baby is likely to be normal or not. This procedure is useful because we can terminate the pregnancy when such a condition is detected in early pregnancy.

(2) In the second group, the factors that operate during pregnancy (prenatal period) are considered. Various insults occurring to the baby during this period may lead to mental retardation. Intrauterine infections like syphilis, rubella (German measles), toxoplasmosis, cytomegala inclusion disease, etc. can lead to growth retardation of the foetus. Some of these can be prevented by early detection and prompt treatment. Hence tests for syphilis, e.g. VDRL, must be done in every pregnant lady. Rubella can be prevented by immunisation. In case the person is not immunised, then she should not come in contact with rubella cases during pregnancy. Damage to the growing foetus can occur by radiation. Hence pregnant ladies must be protected from radiation.

Another factor, which may affect the foetus is blood group incompatibility. Here the mother's blood group and the blood group of the foetus do not match. This may be due to Rh incompatibility or other blood group incompatibilities. If the mother is of Rh negative blood group and her husband is of Rh positive blood group, anti title must be done at regular intervals. If the obstetric history is bad, then sometimes amniocentesis may also be necessary to study the amniotic fluid so as to prevent erythroblastosis foetalis.

Sometimes even intrauterine transfusion may have to be conducted. Drugs like antithyroid drugs (e.g. Neomercazole) etc., if given during pregnancy, can lead to cretinism. Hence it is important to keep a watch on the drugs consumed by the mother during pregnancy. Maternal malnutrition, anaemia, toxaemia of pregnancy, alcoholism, smoking, drug addiction and other factors are well known to produce intrauterine growth retardation. Therefore, care should be taken to see that these factors are prevented from operating during pregnancy.

(3) In the third group, the factors that operate at or around the time of birth are considered. Birth injury, infections, hypoglycaemia and jaundice are the major factors. Whenever there is cephalopelvic disproportion, the baby cannot be delivered through the normal birth passage without injury to the head. In our country, in the rural areas, most of the deliveries are still conducted at home. Birth injury is quite common among home deliveries and whenever deliveries are conducted by unqualified and incompetent people. Many children need resuscitation at birth and if it is not given, cerebral damage is the end result. Hence measures to make good obstetric services should be made available.

The newborns of diabetic mothers are well known to develop hypoglycemic attacks, if proper care is not taken. These hypoglycemic attacks can lead to cerebral damage and mental retardation. Hence all pregnant women must be screened for diabetes. Great care must be taken to prevent infection in the new born. With slight evidence of infection it should be immediately and adequately treated. Jaundice in the new born must be watched. Whenever present, early measures must be instituted so as to prevent kernicterus in which brain damage occurs. This occurs in blood group incompatibilities and certain other conditions.

Drugs, phototherapy, exchange transfusion etc. can prevent kertictus. Whenever a Rh positive child is born to a Rh negative woman, she should be given an injection

of anti-D to prevent sensitization. Hence facilities must be made available for these all over the country. Surgical conditions like congenital hydrocephalus, meningomyelocoele, craniostenosis etc. must be detected as early as possibe and proper treatment given in time.

It is very important to detect metabolic diseases like phenylketonuria, galactosemia etc. where in early institution of therapy like diet therapy helps in the prevention of mental retardation. In fact in the Western Countries every child is screened for these diseases because these are the conditions where we can do something if these diseases are detected early.

(4) In the fourth group the conditions operating after birth leading to mental retardation are considered. There can be many reasons for cerebral damage. One of the important causes is cerebral infections like pyogenic meningitis, tuberculous meningitis, encephalitis, brain abscess etc. Early diagnosis and prompt and adequate treatment go a long way in reducing the incidence of mental retardation due to these reasons. T.B. meningitis can be prevented to some extent by BCG vaccination, good diet and early detection of timely treatment of primary T.B. infection in children. Then the etiological factors must be looked into. If there are repeated attacks of pyogenic meningitis e.g. fracture base of skull, immunedeficiency disease, meningocoele etc. so that the proper treatment can be given. Measles encephalitis also leaves behind mental retardation and it can be prevented by immunizing a child against measles.

Head injury many a time leads to brain damage and mental retardation. So it is very important to prevent head injuries. Lead poisoning is also known to lead to mental retardation. Hence children must not come in contact with paint which contains lead. Bleeding in the brain known as cerebrovascular accident also damages the brain. Some of the conditions which are the predisposing factors can be taken care of and they can be prevented. Post-vaccinial encephalopathy has been brought down after using only the safer vaccines.

Besides all this, the most important thing is to bring about public awareness of the problem of M.R. and that it is possible to train and educate the majority of them so that they will not be a burden to society and their family members. Early detection sometimes can help to take remedial steps in time. The children who are deaf and blind are sometimes labelled mentally retarded. That is because they are not getting environmental stimulation and the warmth from the society that is essential. By integrating these mentally retarded children in normal society they are prevented from further deteriorating and developing

secondary behaviour problems. With the general improvement in health and socio-economic conditions, the outlook is going to be more encouraging.

At the present rate of births in India with a very conservative estimate one can confidentially say that about 22 to 24 million are born every year, out of which mentally retarded children constitute about 6 lakhs. Obviously we must reduce the birth rate. If we want to reduce the births of mentally retarded children in our country, we must necessarily reduce the total number of births by effectively adopting all possible methods of family planning available to us.

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PART — II

EARLY DETECTION OF MENTAL RETARDATION

By DR. B. P. SHAH, DR. P. C. SHASTHRI
and Miss K. M. MERCHANT

Early detection of any handicap; physical such as visual, auditory, orphapaedic or mental such as mental subnormality is very crucial from the point of view of planning appropriate training and education and prevention of unnecessary and avoidable sufferings to the handicapped person and his family.

The mentally subnormal person may belong to one of the three following categories :—

1. The degree of Mental Retardation more or less remains the same all through the early development; school years and adult life. The strategy for this group is to plan special training and educational programme through devising remedial measures with the help and co-operation of teachers for the Mentally Handicapped persons, otherwise these children may develop behaviour problems.

2. Mental Retardation is due to certain factors or causes which if detected early can be reversed e.g. Mental Retardation due to maternal deprivation or lack of intellectual stimulation or some metabolic disorder such as P.K.U. Galactosaemia etc. The strategy in this group to rectify the reversible factors, through the help of psychotherapy can be helped to provide tender loving care to the baby. In cases of cretins the child can be treated with thyroid hormones and in cases of P.K.U. or Galactosaema, special diets can be provided.

3. The degree of retardation increases i.e. there is deterioration of mental capacities with the passage of time e.g. Mental Retardation due to demylinating diseases. Since most of these conditions are probably genetic, strategy in this group is primarily genetic counselling.

Objective Psychological Tests can help to detect Mental Retardation often when there are no clinical signs of retardation for children below the age of three years tests of Development are available. For children above the age of three years one can use various verbal and non-verbal tests of intelligence. The latter tests are usually administered when parents and teachers find that the child is not progressing in his school work or has problems like poor memory, low concentration, scholastic backwardness etc. Ideally, they should be administered prior to the child seeking admission to the school. They are thus a screening device to pick out Mentally Retarded children who are not likely to benefit by going to ordinary regular schools. These tests will indicate mental retardation even when the parents and teachers may not have had any complaints about the child's difficulties in studies. Since enough literature is available on the utility on these tests, they will not be discussed here in any more details.

Developmental Tests below the age of 3 years is relatively recent. In order to detect early retardation, a thorough knowledge of child's normal development is necessary. A number of objective tests are available for this purpose. The two most commonly used are Arnold Gessels Developmental Schedules and Bayley Scale of Infant Development (B.S.I.D.). Attemps to develop norms for Indian children on Gessels Developmental Schedules have not been quite successful. Using the B.S.I.D., Dr. (Mrs.) Pramila Phatak nas developed norms on children in Baroda, both urban and rural children, and also those coming from upper socio-economic group and lower socio-economic group.

We have still to determine whether these norms are applicable to children in other parts of India. At the Shrimati Motibai Thackersey Institute of Research in the field of Mental Retardation, we have undertaken a project to develop norms on children belonging to lower middle class families. The project is going on for the past 1½ years and we will report some of our experiences here.

Before we relate our experience we think it is necessary to brief you on the B.S.I.D. Test. This test measures two areas — The Mental and The Motor. Mental Tests consist of 163 items covering different expressions of mental growth like response to visual and auditory stimuli, manipulation of objects and observation of child's vocalisation and language. The Motor Tests consist of 67 items studying neuro-mascular maturity of the child in the form of body control, co-ordination in movements etc. At lower level simple bodily movements and grasps are observed.

Through the use of the above test it is possible to detect :

1. Overall Retardation i.e. retardation, both in Mental and motor development, e.g. out of 150 children that we tested, we found two cases in which there was evidence of mental retardation. These children were below the age of one year and in whom clinically there were no signs of mental retardation.

2. Test may also show that there is a deviation in either motor or mental growth, i.e. child may show lag in motor development as compared to mental development. At our clinic, one child showed lag in motor development as compared to his mental development. On enquiry it was found that the parent felt that the child was overweight and therefore let him sit around mostly. We advised the parents to encourage him to have outdoor play where vigorous movements were necessary.

There was another child whose mental development lagged behind his motor development. On enquiry, it was reported that the mother, being busy, hardly talked to the child and provided him his needs without his asking. Here, we advised the parents to stimulate his speech by talking to him and letting him ask for things he wanted.

3. In addition to detecting overall generalised retardation the test also helps to detect poor development in specific psychological functions. Test may show arrest, block or backwardness in various areas like auditory, visual, visuo-motor, comprehension or speech. For example, a one-year-old child was referred to us for his developmental assessment. On testing we found his mental development was around 4 months. On item analyses, i.e. going through the items that contributed to this low score, we found that the child had failed mostly items involving hearing i.e. his auditory function was affected. This child was referred to an E.N.T. surgeon who found that the child has lot of wax in his ears. This wax was removed. On retesting this child we found that he responded to the auditory items on which he had failed before. This time his mental development was assessed around 7 months. If this child has not been referred to us for assessment, it was likely that the wax would have remained in his ears for a long time and he would have developed speech problems such as delay in speech etc.

To cite another example, a one-and-half-year-old orphan child was referred to us for assessment as she was being given for adoption. Her overall development was at a low score was because her speech and motor development borderline range. On item analysis, it was found that the was comparatively slower. Studying in more detail, we found that this child had not received enough stimulation. We instructed the nurses in charge to stimulate this child several

times during the day by talking to her, playing with her, making her move on the floor etc. Within a short time, this child showed improvement in her speech and motor area. Her overall reassessment showed her development to be within average limits and she was given for adoption.

Thus, we have shown the utility of an objective test. Any clinician may detect mental retardation if it is of a gross degree, but in cases of borderline grade or cases where development appears normal, tests may detect either generalised retardation or retardation in a specific area.

Administration of B.S.I.D. is a long procedure. Many paediatricians and clinicians have shown keen interest in this scale but because it is a long procedure have desired an abridged scale. Mrs. Pramla Phathak proposed an abridged scale and we have been stuyding the utility of this scale also. Any clinician will be able to administer this scale with ease when it will be made available and make rough assessment of child's development. If he suspects any deviation or subnormality in the development, he can request for a more precise and accurate assessment using the full scale. This abridged scale would be of considerable use to Neurologists and Child Psychiatrists.

The main aim of presenting the above data is to convey that developmental testing because of its importance in early detection should become a part and parcel of the total health programme. In all agencies that deal with children such as post-natal clinics welfare centres, montessory classes and adoption agencies, developmental testing should be carried out.

PART — III

ROLE OF VARIOUS AGENCIES IN THE MANAGEMENT OF THE MENTALLY RETARDED

By

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and

(Mrs.) J. H. VAKEEL.

Throughout the ages, as people of India, we have been proud about our humanitarian approach to any problem. However, we have not been conscious of the needs of the mentally retarded child. The unalleviated affliction and the tribulations of its parents, its family and social circle are tragic, and have festered through the ages to virulent proportions, sapping National efficiency. According to the most conservative estimate, there should be at least 13-14 million mentally retarded persons in India of every caste, creed and socio-economic status.

Many of us are not unfamiliar with the plight of the mentally retarded person. This is that person whom children find it fun to tease, hit or even stone. He is condemned as useless and called "pagal" (ie. mad) by almost everybody. He is often depicted in our movies as the village fool and the audience laughs hilariously as they see him try to adjust to a society that does not accept nor understand him.

The social worker tries to countermand this trend of affairs through a campaign which stresses the fact that mentally retarded children are not to be confused with mentally ill persons. Mentally retarded people are not "pagal" and mentally retarded people are almost always harmless. Their behaviour problems stem from habit and bad learning.

The social worker helps in removing the stigma attached to the condition of mental retardation. Many of our mentally retarded people are hidden in the proverbial attic. Parents are ashamed of the fact that they have such a

child. They feel it reflects badly on the family. The parents are informed that this condition could be a result of several factors and no caste or creed is spared. Many parents feel that by revealing their child's retardation, opportunities of good marriage etc. for the other children are affected. Therefore they insist on sending the child to a school for normal children initially, and then as academic backwardness becomes apparent, they let the child stay at home.

It is found that most people are pessimistic about the extent of help, prolonged and organised therapeutic services can offer. The social worker fights a hard battle in convincing society of the need for a better and more realistic acceptance and understanding of the problem of mental retardation.

A campaign is called for to counteract the general belief that the mentally retarded individual is a useless appendage of society. On the contrary, trained mentally retarded boys and girls are proving every day that they make honest and sincere workers who take pride in their work — who respond exceptionally to praise and who produce quality goods. They do their best inspite of their many physical and other handicaps. These people are to be encouraged not laughed at.

We will outline the role of the social worker, psychologist, speech and hearing clinician, physio and occupational therapists, teachers and what these disciplines hope to accomplish in their fight against the various handicaps that a mentally retarded child faces.

Inspite of continued efforts at prevention, there will continue to be children with congenital and acquired forms of mental retardation. Habilitative measures not only involve the retarded person but also require close, active and enthusiastic co-operation from parents, siblings and teachers.

The social worker makes a major contribution in investigating the family background. How the family relates to the problem will depend among other things, upon the socio-economic status, educational and cultural background. The family which knows little about the problem of mental retardation often finds it frustrating and almost impossible to deal with their child. The child may need help and attention throughout the day and night. The child is usually not toilet trained and cannot communicate. Resultant behaviour problems like aggression and stubbornness along with hyperactivity make it a very difficult management proposition for the parents. The social worker helps by counselling the parents and explaining to them the nature of the problem. They are directed to

various medical and paramedical and special schools. Parents are often unaware of available facilities.

Educating the mentally retarded child is a long term process and progress is often at a snail's pace. Hence many parents lose patience and withdraw the child from therapy.

The social worker helps by following up on each case and by encouraging the parents to continue special education. Mental retardation, the social worker explains, is not a disease and cannot be cured through drugs or any other short term method. The individual learns by intensive training to best fit into the society as a productive, stable and independent member. The social worker tries to lesson the anguish, bewilderment and despair usually felt by the parents of mentally retarded children. Through regular counselling morale is kept up and a positive outlook is encouraged.

We now come to the role of the psychologist in diagnosing the nature and extent of retardation. The psychologist assesses the mental status of the patient on the basis of various psychological tests and clinical impressions. On the basis of the test results, the children are classified into educable or trainable categories. Children classified as mild or moderately retarded are educable academically to some extent and can benefit from vocational and occupational training.

The very severely retarded children, who may not benefit from academic education, can be trained in areas like self help, self-care and occupational training. The psychologist identifies the various areas of difficulty in their learning abilities. Whereas, children with borderline retardation can continue in normal schools with extra coaching and remedial classes; the mild, moderate and severely retarded children require special schooling.

The psychologist also assesses personality and mental status of the person. Various tests are administered to identify associated behaviour problems or emotional disturbances.

Disturbances in visual and motor perception and coordination are also identified through testing. Most mentally retarded persons have associated behaviour problems. These may be caused by a variety of factors like family mishandling or wrong learning etc. The psychologist examines the underlying causes of such behaviour. This wrong behaviour is unlearned through behaviour modification therapy.

Parents are counselled regarding what to expect from their child. Psychological needs such as love, affection

and a feeling of belonging are strong in a mentally retarded child and have to be looked after with special care. The psychologist stresses the need for encouragement, positive reinforcement and continually maintained motivation in the education of the mentally retarded person.

The speech and hearing clinician is another important member of the multi-disciplinary team. Many mentally retarded children have hearing problems and almost all of them have speech and language problems. In diagnosing the extent of hearing loss, audiometric tests are conducted.

A speech and hearing evaluation takes into consideration the medical history which includes pre-natal, natal post-natal history. The oral peripheral mechanism for speech is observed for any noticeable abnormality. Articulative ability is usually defective in mentally retarded children. This can be because of hearing loss, structural abnormalities, inadequate intra-oral pressure (e.g. cleft palate), abnormalities of tongue, dental irregularities and other anatomical conditions. Corrective plastic or orthodontic surgery may be called for in some cases.

The speech therapist has a responsibility of diagnosing the extent of retardation in the development of language. The term language refers to the various systems though which meaning or messages are conveyed from one person to another. Speech, writing, facial expression, gestures, signs etc. are modes of communication. The mentally retarded child suffers most in the field of communicating his needs and ideas. Lack of ability to communicate causes severe frustration, and results in traumatic emotional problems.

Society rejects or laughs at a person who cannot speak right even if he is normal. The plight of the mentally retarded child is tragic in this comparison. A speech therapist tries to show the mentally retarded child through repeated demonstration, kinesthetic sensation etc., the tongue positions for various speech sounds. Speaking is made to be a pleasant task and as child gains confidence in his ability to communicate, his frustrations decrease and his tensions reduce.

Language retardation can be remedied through intensive therapy. This is a long term process of educating the child in basic conceptual development. The child begins to grasp and use new words. He begins to recognise and identify common objects, body parts, colours, etc. He begins to learn much in the same way as a child with normal intelligence. The only difference being that learning occurs at

a slower rate depending on the child's mental capacity and behavioural status and other related factors.

A speech therapist also counsels the parents in order to provide a congenial home environment for language and speech development. The parents are advised to feed the child information through talk and play and to reward the child through praise or through small material rewards when the child responds correctly.

Co-operation of playmates and other siblings is also elicited to form a play group wherein the mentally retarded child gets a chance for healthy social interaction.

The occupational therapist concentrates on the development of the mentally retarded child in terms of everyday living needs. The child learns to accomplish self care needs independently. He learns to be toilet trained, to eat, to clean himself, to dress, to tie his shoes, comb his hair, etc. Once these basic skills are developed, the occupational therapist will concentrate on developing finer motor functions like catching a ball, writing with pen etc.

The occupational therapist observes and assesses the development of mental endowment, muscular mobility and skills of the children through various activities. Children are trained in simplified and better ways of performing self care activities like toilet training, dressing, feeding etc. Repeated instructions and emphasis on importance of hygeinic living helps the child learn self care activities. Parental co-operation is essential in making the children as independent as possible in activities of daily living.

Mentally retarded children may have impaired eye-hand co-ordination due to orthopaedic or neurological disabilities. Children are provided graded skillful activities like plasticine mixing and modelling, peglifting, drawing, painting, bead-stringing etc. If child has acquired sufficient skills he is encouraged in simple crafts like basket making, chair canning, etc. Appreciation and rewards helps to motivate the children to learn crafts. The child's confidence in his own abilities increases.

Under proper supervision, educable and trainable mentally retarded children learn useful vocations like weaving, carpentry, tailoring and screen printing. The therapist guards the children against distraction and promotes healthy vocational habits.

The occupational therapist has also to strive for balanced psychological adjustment in the mentally retarded children. Restlessness, poor memory, short attention span and irritability are common problems.

Proper channelisation of energy in constructive activities helps to reduce restlessness. Interesting activities keep the children occupied with work. Occasional periods of singing, dance and group games reduces their tension. Arranging picnics to zoos, gardens etc. provide interesting opportunities for learning as also social interaction.

Last but not least, we come to the role of the teacher who helps the mentally retarded child in the class room situations. The child usually exhibits a short attention span. He does not sit in one place. The teacher tries to reinforce positive behaviour in a group situation. Healthy competition among peers encourages learning. The teacher, through play activity tries to make learning fun for the child. Colourful and large pictures and objects are used and the child is stimulated through all possible sensory channels. Classes are formed depending upon the children's intelligence, behaviour and maturity level.

We wish to stress that the success of the habilitation programme for the retarded depends on an organised approach to the problem taking into consideration the various factors that influence it. A large number of children are at present getting no help whatsoever. A mentally retarded child, if enrolled in an educative programme most certainly begins to show tremendous improvement. On the other hand, the child who is not helped, usually degresses in behaviour and becomes an increasingly burden on society.

We make an appeal to the Government, to private industry and to the public to come forward and help those who are fighting this humane battle for the betterment of more than 14 million Indians. The help that radio and television, newspapers and other media can render cannot be over-emphasised.

A new trend in the habilitation of the retarded child is gaining popularly in western countries. The mentally retarded child is being integrated with the normal child in schools. This helps the handicapped child experience to a great degree the normal life style of other children. Although they attend separate classes, the social environment is shared by both, the retarded and the normal child. And when these children grow up to become adults, each of them will understand the other better.

As public awareness and interest in the problem of mental retardation increases, as greater co-operation between Government and social agencies is achieved, as our society becomes more knowledgeable about the nature of this disorder, we hope that an increase in facilities will occur. More special schools will open, and greater attention will be paid to the physical, social, psychological and educational needs of the retarded child.

Mrs. Nama V. Bhat requesting Dr. S. H. Guha (second from left) to take the Chair at Plenary Session VI.

Capt. H. J. M. Desai, Chairman of the Resolutions Committee, addressing the Conference. To his right is Mrs. Nama V. Bhat, Conference Director, and to his left, Mrs. Tara Shastree, Chief Rapporteur.

Dr. Henri Viscardi with the Bharata Natyam artist,
Miss Aditi Vijay Merchant, who entertained the delegates.

Parveen Sultana, noted vocalist, entertaining the delegates.

PREVENTION & EARLY DETECTION OF CONDITIONS PRODUCING ORTHOPAEDIC HANDICAPS & THE ROLE OF VARIOUS AGENCIES

By Dr. W. G. RAMA RAO,
Director, All India Institution of Physical Medicine and Rehabilitation, Bombay.

The explosion of science into the art of medicine in recent years had made it easy to be preoccupied with disease at patient level and loose sight of main objective. The main objective of a health service should be to promote and maintain health and wholeness in society.

Statistics taken annually indicate an ever increasing number of persons who have sustained some permanent physical handicaps by reason of injury, disease or heredity. The ideal situation to deal with this amount of disability is too costly for developing countries. And there are not enough trained personnel either.

Clearly, therefore, prevention of impairment or effective means of treating disability would mean a large reduction in number of dependent population. Since there are certainly ways of preventing some of these disabilities the community must be deeply concerned with their application.

Disability usually develops in the following pattern : Impairment — functional limitation — disability. Prevention of disability calls for interventions at different levels.

I. First level prevention :

"Impairment" can be prevented to a certain extent, e.g. — Prevention of congenital diseases.

(a) Genetic — by prospective counselling.
(b) Non-genetic disorders by preventing malnutrition and communicable diseases in pregnant mothers. Good anti-natal and natal care.

- Prevention of acquired disease

(a) Vaccination
(b) Pre-para and post-natal care.

II. Second level prevention :
When impairment has happened to prevent long-term functional limitation.

(a) Identify those impairments that might lead to limitations.
(b) Proper care in acute stage.
(c) Proper care in chronic satge.

III. Third level prevention :

When long-term functional somatic or mental limitation has developed.

(a) Training to increase independence in self-care.
(b) Educational and vocational measures aimed at achieving and economic independence.
(c) Social measure for full integration into society.

Over the last two decades, the A.I.I.P.M. & R has come to be relied upon as "The Institute" by the physically handicapped in the country. A look at the spectrum of disability treated at the Institute gives an idea as to the degree of preventible disability.

Temporary Disability :

Chronic bone infections :	...	2%
Due to fractures & dislocations sprains etc :		6.5%
Backache :	...	7%
Metabolic diseases etc.	...	10%
Miscellaneous group :	...	18%
Osteo arthritis, knee rheumatoid arthritis, periarthritis shoolder other joint pains, Tennis elbow.		

Permanent Disability :

Polio -- paralysis :	...	24.4%
Amputations	...	13.6%
Cerebral palsy :	...	9.5%
C.V.A.	...	4%
Peripheral nerve injuries :	...	3%
Muscular dystrophies	...	1%
Paraplegia & quadraplegia :	...	1%
Congenital deformities :	...	3%

In about 60%, handicap was caused by potentially preventable disease.

What, then, are the gaps to be bridged to achieve results.

(1) Qualitative gap —
Lack of good rehabilitation and preventive services nearer to the patients' place of livings.

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(2) Quantitative gap —

Needs for services will increase and new needs will arise.

(3) Geographical gap —

Rural isolation with severe personal disability with lack of rural rehabilitation services.

(4) Trained personnel gap.

(5) Inadequate national policy and legislation.

(6) Financial gap.

(7) Insufficiency of consultation and joint action between Governmental and non-governmental agencies.

(8) Communication gap.

Problems :

1. Demographics of Disability :

No programme can be effective without the knowledge of the magnitude of the problem. Establishing a reliable data base for rehabilitation is important. A government which does not carefully enumerate its disabled population lacks adequate motivation to rehabilitate them.

Information needed :

Number of disabled.

Nature of disability (with referal to 9 body parts).

Degree of disability (5 point scale-moderate to very severe)

Cause of disability

Social circumstances of the disabled individual.

2. Definitions must be clear.

"A physical defect is a state of imperfection of body which can be objectively defined by a doctor."

"In connection with a defect a handicap can make itself manifest in the form of an impediment which limits or hinders function."

3. Geographical variations :

Rates of disabled higher in or near industrial areas. So use such specific date while allocating resources.

4. Presence of multiple disabilities complicates simple rehabilitation process.

5. Delivery of services.

There is one doctor to 400 patients in the urban areas and one doctor to 10,000 patients in the rural areas. And with about 5,75,721 villages, many of these with a population of less than 500 persons, the problem is more acute.

Possible solutions :

1. Need-oriented cervice :

By long tradition, we assume that when foreigners do something differently from us their methods must be superior. Our medical curriculum is the victim of this.

So, until we reach a stage where a team of ordinary people with ordinary training can assist an ordinary child or man or woman who is disabled, in achieving the ordinary life objective in the society in which that person lives, we cannot really say that rehab'litation — preventive of otherwise — has reached a stage of maturity.

2. Bring together a comprehensive integral range of services in a single organisation, ensuring the patient of covenient access to all of these services.

3. Develop community, sectoral and regional services.

4. Identify preventable, curable and non-curable conditions.

5. Do not limit services to "Standard procedures".

6. To minimise costs on a comprehensive services, compromise on providing "Team of Specialists".

7. Our greatest asset is the disabled himself. Exploit them for their good.

Make the disabled play more important role, if it is really something we are doing WITH the disabled and not something we are doing to them.

8. Public education :

Our principal weapon is education.

— Education of the disabled about their rights.

— Education of the trade unions, employers, politicians and of community as a whole to the fact that individual "physical peculiarities" can make people interesting and useful members of Society provided they are helped to find their proper roles.

9. Develop preventive measures :

The community is sometimes that of the village, of the district, of region, and sometimes of the whole nation. At each of these levels preven'ive efforts should be developed along with 2 lines of intensive study of the part played by neglect and the con'ribution that might be made by better education of the public.

10. Ignore educating the self opinionated physician who neither has the capacity to understand nor is he willing to learn.

Role of Various Agencies :

In order of appearances in the history of rehabilitation services in this country there are 3 policy areas : Voluntary organisations, central authorities and state authorities.

Serving on these 2 policy areas are numerous professions and their ancillaries with potential to influence these areas.

Government: National policies, plant and legislation are necessarily the Central responsibilities.

It is essential to formulate a National Rehabilitation policy for the country at the highest level, because health is a State subject. Then only long and medium term plans and legislative measures for an interactoral and multidisciplinary co-ordinated approach are possible for maximising community oriented activities for disability prevention and rehabilitation of the disabled in the Society.

Voluntary organisations: Voluntary organisations have unique position in the Society. The members ars those who matter in the Society — educated, influential and affluent. And at times involved. Without the cooperation and participation of the voluntary organisations, it is difficult for the Government to meet the expected demand in this field. But voluntary organisations have certain responsibilities.

1. They must involve the disabled more and more. Their disability speaks better. No wonder the U.N. expert committee said "Disabled people should be involved as much as possible in the formulation of plans that will affect them".
2. Time bound community disability surveys.
3. Making available guidance, resources and services.
4. Co-ordinating the existing voluntary services to avoid duplication and work more efficiently.
5. Educating the public
6. Taking voluntary organisations to peripheral areas.
7. Promoting community leadership and Identifying local talents.
8. Organising relief services to families with disabled, when social stress is raising and most important.
9. Political lobbying.

Lastly, allow me to quote W. S. Landor:

"Those who are quite satisfied, sit still and do nothing. Those who are not quite satisfied are the sole benefactors of the world."

PREVENTION & EARLY DETECTION OF LEPROSY AND THE ROLE OF VARIOUS AGENCIES

By DR. R. GANAPATI,
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In spite of the widespread realisation of the importance of community approach to health problems, especially those related to chronic communicable diseases and crippling ailments like leprosy associated with social ostracism, it would appear that very few agencies at present are involving themselves in sustained efforts to convince the community of the efficacy of modern system of medicine in the prevention of handicapping condition.

Even the students of medicine are not sufficiently exposed to the community approach to preventive medicine, the teaching of which is essentially confined to bed side and out-patient clinics. While with reference to a few other communicable diseases, some justice is done in this regard, as far as leprosy is concerned there is hardly any agency existent even to demonstrate control measures to be practised under field conditions.

Unless medical and paramedical auxiliaries are brought to a teaching ground in a field set up, they are not likely to be impressed by the preventability of handicaps and understand the none too complicated techniques to be adopted in this connection.

An opportunity was taken of the functioning of a few urban leprosy projects engaged essentially in field work in recent times in some parts of Bombay to assess the disabilities suffered by leprosy patients. Thus far under urban conditions there was no possibility to obtain epidemiological data on deformities due to leprosy, most of the figures being derived from the statistics available from leprosy clinics. It was thought that such data would throw light on the load of the problem and indicate some of the lacunae in our approach to prevention of disabilities resulting from

the disease. Since the area of operation of these units is well defined and they are working with a project-oriented approach, the figures would attain some degree of epidemiological significance and be more meaningful than clinic figures.

The initial data from three units working in H, K and L wards of Bombay Municipal Corporation extending from Bandra to Jogeshwari including Kurla, representing a population of about 15 lakhs were available. The methodology of all the units is uniform and consists of intensive surveys of slum and school population, and encouraging voluntary reporting of patients at treatment centres spread out fairly evenly throughout the project area through health education.

The grading of deformities of limbs was done as per the simple scheme recommended by the WHO to be followed by medical auxiliaries and is as follows :—

	Hand	Foot
Grade 1.	Insensitivity	Insensitivity
Grade 2.	Ulcers & Injuries, Mobile claw-hand, Slight absorption.	Tropic ulcer, Clawed toes, foot Drop, slight absorption.
Grade 3.	Wrist-drop, stiff joints, severe Absorption	Contracture, Severe Absorption.

It can be seen that Grade 1 consists of just peripheral abaesthesia without obvious deformity. Most patients in Grade 2 and Grade 3 could be possibly identified as suffering from leprosy and therefore comprise a group generally subjected to social ostracism and likely to pose problems of rehabilitation. It is well known that owing to preventive measures not being adopted in grade 1, patients drift into severer grades of deformity.

Screening of approximately 2 lakhs of population for evidence of leprosy by these three units has unearthed 2607 patients whose deformity status is shown in the following table.

Total Registered cases : 2,607.

Deformity	No.	Per cent	
Grade 1	469	18.0	
Grade 2	259	9.9	
Grade 3	190	7.3	17.2
All Grades	918	35.2	

It can be seen that through 35.2% of the whole sample had some degree of disability, 17.2% suffered from severe grades of deformity as a result of poor attention to their limbs which were proved to develop complications. The

warning sign heralded by anaesthesia and early motor paralysis of muscles were obviously ignored by these patients.

It is well known that secondary deformities in leprosy are always preventable and according to Paul Brand, the whole problem of tropic ulcers in "one of mechanics and not of medicine". In order to find out whether the deformity-prove patients were really motivated to follow the necessary protective measures to be taken in the earlier stages of the disease, a small sample of 38 patients belonging to Grades 2 and 3 deformities derived from one of the three units were interrogated in detail. Eleven patients of these were registered for the first time and they had not taken any treatment before nor attended any leprosy clinics

The deformities could not have been prevented in these cases. The remaining 27 old treated patients were subjected to intensive questionnaire on whether they had received any advice regarding protective devices to be adopted for prevention of deformity, and if so, (i) what type of advice; (ii) the frequency of adoption of preventive methods and (iii) whether the patients had subjective relief by the methods.

The disabilities were predominantly found in their feet in more than 50% of the cases and these were in the nature of tropic ulcers with varying degrees of damage to the architecture of the feet including absorption of toes. The deformity in the hands were mostly fixed contracture of fingers with superadded transmatic damage due to anaesthesia.

The results of the questionnaire are as follows :—

Number of patients interrogated	27
Patients who had received no advice earlier	18 (66.6%)
Patients who received some advice	9 (33.3%)
(a) Patients who followed the advice regularly with some benefit	3 (11.1%)
(b) Patients who could not or did not bother to follow the advice offered	6 (22.2%)

Eighteen out of 27 patients (66.6%) who were in moderately advanced stage of deformities, could not recollect having received any advice at the leprosy centres which they were attending for a number of years for their treatment. Presumably the only care which was offered besides administration of DDS tablets was the dressing of ulcers in some cases. Out of 9 patients (33.3%) who seemed to have been told to take care of their limbs, only 3 (11.1%), who had deformities confined to their hands had apparently followed the instructions from physiotherapist sufficiently regularly to be benefited to some extent.

In these cases though the hands were obviously deformed, they were free from secondary damage. The remaining 6 patients did not bother to take advantage of the advice offered, one of the reasons given for this indifference being that they could not afford to pay for the special footwear which they were expected to use.

The epidemiological data pertaining to incidence of leprosy point to a high rate of transmission of infection. Though definite incidence figures are not available from urban areas, the data from screening of child population and limited slum surveys indicate very high prevalence in some parts of cities like Bombay. One of the gratifying features of the disease is the relatively low proportion of those infected developing progressive forms leading to deformities. While the detection of leprosy and initiation of treatment at the earliest possible stage is no doubt ideal to prevent the on-set of deformities, a great deal can be achieved from a practical angle even if the "deformity-prone" subjects (i.e.) those showing early evidence of nerve trunk involvement alone are subjected to surveillance by a specialised task force.

Grade 1 deformities have contributed to more than 50% (469 out of 918) of the total deformed population in the present study. The magnitude of the backlog of cases in grade 1 alone justifies the creation of such preventive squads offering the necessary advice and physiotherapy in the field. The motivational aspects of patients to adopt simple and well known preventive methods need to be studied scientifically in the field and this is not a problem confined to medical agencies alone. A variety of agencies could play a supportive role to the vertical programmes doing exclusively leprosy work.

Further, the efficacy of the methods used to prevent deformities has not been effectively demonstrated to the community through facts and figures. Without involving the community in the programme our control efforts are not likely to succeed.

PREVENTION & EARLY DETECTION OF CANCER & THE ROLE OF VARIOUS AGENCIES

By DR. P. J. KOLAH
Cancer Detection Centres,
Indian Cancer Society, Bombay.

Cancer is a disorderly and uncontrolled growth of cells.

Cancer begins as a local disease with little or no evidence of disturbance of function. It should be diagnosed and treated at this stage. There is a wide variation in different types of cancers in different countries. Environment, habits and custom are responsible for this variation.

Cancers of the oral cavity, larynx, oesophagus and uterine cervix are more common in India than in other countries. Breast cancers and cancer of the body of the uterus are not as common as in some other countries. Breast cancers are most common in Europe and North America.

Cancer of the body of the uterus is most common in Latin American countries.

Japan has the highest incidence of cancer of the stomach. It is also common in N. Europe, Great Britain, N. America, Iceland and Finland.

Primary cancer of the liver is most common amongst the Bantus and other Africans. It is also common in Jamaica, Puerto Rico and parts of China.

Burkitt's lymphoma is more common amongst African children than anywhere else in the world.

An important epidemiological observation has been that a particular ethnic group in a country has a higher incidence of cancer, e.g. the Parsis in Greater Bombay. The incidence of cancer in the Parsis (201.3/1000 000) is nearly thrice as much that seen in the Hindus (68.9/1000,000) and Muslims (74.0/1000,000).

The essence of cancer problem is prevention and cure. Prevention is possible only when we know the causes of

a disease. Certain important studies have shown that various factors play important etiological roles in the production of certain cancers.

The incidence of lung cancer is ten times greater for cigarette smokers than for non-smokers, and in heavy smokers it is twenty to thirty times greater. Smoking also increases the incidence of cancer of the oral cavity, larynx, oesophagus and urinary bladder.

Tobacco chewing, especially with lime, increases the risk of cancer of the buccal cavity and oesophagus. Irritation caused by broken teeth and ill-fitting dentures are a few of the pre-disposing factors. Precancerous lesions like leukoplakia of the buccal cavity, fissures and cracks of the tongue if left untreated; are known to be pre-disposing factors. 18% of cases of leukoplakia are associated with cancer.

Twenty per cent of all cancers (in our Detection Centre Series which is a small series) in the women are breast cancers. The relation between marital status, lactation and breast cancer have been studied. The incidence of cancer is found to be lower in married women than in unmarried women. Lactation further lowers the incidence of breast cancer. Our series in the detection centres show that there is a heightened frequency of cancer in women with chronic cystic mastitis.

It is interesting to note that the factors which contribute to a lower incidence of cancer of the breast, increase the risk of cancer of the cervix. The incidence of cancer of the cervix is higher in married than in unmarried women. It is still higher in women who marry very young, and start pregnancies at an early age. The incidence increases with greater parity.

The National Cancer Institute from U.S.A. has shown that Herpes Type Virus (HTV) is frequently detected in cell lines derived from Burkitt's lymphoma, leukaemic tissues and others with a variety of diseases. All Burkitt's tumour patients have a high level of antibodies to HTV antigen.

Chemicals like D.D.T. and cyclamates are found to be carcingenic. The association between exposure to harmful doses of radiation and the occurrence of leukaemia is well known.

Experiments in animals at the National Institute of Nutrition, Hyderabad, have shown that in animals fed on low protein diet induced carcinogenicity is inhibited. The reverse was true in animals fed on high protein diet.

Thyroid tumours are also associated with certain types of diets.

Various agencies play important roles in prevention and early detection of cancer. These agencies are :—

1. Voluntary agencies.
2. Government agencies.
3. International agencies.

1. **Voluntary agencies include :**

(a) Social services organisations like the Lions Club, the Jaycees, the Rotary Club, The Inner Wheel Club etc.

(b) Professional agencies like the Indian Cancer Society, the Cytology Laboratory of the Association of Medical Women in India at Cama & Albless Hospitals, Social work students and students from T.I.F.R. help in organising health camps exhibitions, etc.

(c) Community groups like Mahila Mandals, special community clubs and college students working under N.S.S. (National Social Service).

2. **Government agencies :** Premises in government hospitals are given for running cancer detection centres. A few family planning clinics run by Government agencies (like I.C.M.R. projects) also screen women for cancer of uterine cervix by giving Pap test.

3. **International Agencies :** Like W.H.O. also help in various health projects.

The functions of these agencies can be grouped under the following headings :—

A. Fund-raising activities.

B. Motivating the general public to have regular check-ups for detection of early cancer.

C. Establishing and conducting free cancer detection centres.

D. Research projects.

E. Rehabilitation of cancer patients, as its name implies, helps the cancer patients.

A. **Fund raising activities :** Funds are always necessary to start any project. The most important agency, that fights cancer in our country is the Indian Cancer Society established in Bombay in 1951. It not only plays a very important role in the drive for prevention and early detection of cancer, but

it also helps the needy cancer patients in various ways.

Voluntary Social Service Organisations like the Lions Club, the Rotary Club, the Jaycees and others help various health programmes including cancer. These agencies and certain leading industrial concerns and big firms donate funds, equipment for clinical use, and sometimes mobile vans or ambulances. They sometimes help to set up cancer detection centres or to organise cancer exhibitions.

B. Educating the general public to cultivate good health habits and to have regular check-ups for detection of early cancer. This education should begin in the school, because these children will become our future citizens. Children in schools should be taught good health habits and the importance of regular health check-ups.

Older children should be made aware of the dangers of smoking, chewing pan with lime and betel nut and drinking liquor, and taking "dopes". Elementary knowledge about cancer, like its seven danger signals, should be taught to them. Short films on good health habits and cancer should be shown to them. High school students should be shown the work at Cancer Detection Centres and other diagnostic centres Co-operation of the school principal and teaching staff should be obtained for this programme.

Cancer is not common in college students but they should be educated. Posters and literature on cancer which would impart knowledge and at the same time be interesting if introduced amongst them. These should be followed by films on cancer and small group discussions. Facts about the pattern of cancer in our country, its incidence, and predisposing causes should be freely discussed. The importance of early detection through regular cancer check-ups, pap test and self breast examination should be stressed. Short articles on cancer and the need to save lives and prevent suffering by early detection should be placed at the disposal of the students. College students are working as volunteers and are helping health programmes under NSS (National Social Service). They could be enthusiastic workers and be useful in contacting people in different areas. The principals and teaching staff of the colleges should be convinced of the importance of cancer before introducing the programme in colleges.

Similarly young people outside colleges as scouts, guides various Clubs, Mahila Mandals, small community groups should be educated in cancer problem by means of posters, film shows, and group discussions. Those who are interested may become voluntary workers, and help to contact people personally and spread knowledge about cancer and its early detection. Personal approach always produces better results than the passive approach of distributing literature, writing letters or giving talks on radio.

Employees can be contacted by trained volunteers at their place of work. Workers should be shown films on cancer followed by short talks in which questions by the audience should be encouraged. The importance of early detection can be explained by showing how a cancer patient suffers, and the family suffers emotionally and financially when the disease is detected late. Suffering, financial strain, loss of working years due to loss of life, can be prevented by early detection. People who are cured of cancer, especially those in high positions like executives, should be asked to participate in small group discussions.

Similarly, people in colonies, and rural areas should be educated by enlisting the help of volunteers selected from the areas concerned.

Intensive publicity by personal visits of voluntary workers, followed by film shows, distribution of interesting literature, and small group discussions, would motivate literature, and small group discussions, would motivate In the case of low-income groups and the less-educated people.

Free cancer check-up camps with the help of Government and social service organisations in the local clinics and diagnostic centres should then be set up to screen the motivated public of the area.

The aim of educating the public about cancer is to save lives. The message is prevention of cancer where possible and early diagnosis and treatment.

Refresher courses for members of the medical profession are conducted from time to time by the Indian Cancer Society to impart to them the facts about recent trends in the prevention, early detection treatment and rehabilitation of the cancer patient. The first such professional educational programme was organised by the Society in association with the Tata Memorial Centre in 1974. These refresher courses help to make the medical profession more aware of cancer.

C. Establishing and conducting free cancer detection centres. This is done by :—

(1) Government aided programmes.

(2) Voluntary Organisations or agencies.

Prevention of cancer, as stated earlier, is best achieved by early detection, i.e. before the symptoms of cancer appear and the disease has spread. For this purpose, a preliminary examination in a cancer detection centre for every individual above the age of 30 years is necessary.

In a cancer detection centre, every case is first interviewed by the social workers who take a detailed history of the patient including food and smoking habits. Necessary advice is given to every individual who needs it, by the social workers and later by the doctors. Each case is then carefully examined by a team of doctors — an E.N.T. surgeon, a physician, a general surgeon for male patients, and a gynaecologist for female patients. Total and differential W.B.C. counts are done for every case, and a miniature x-ray plate of the chest is taken.

A gynaecologist teaches every female patient to do a breast examination herself. This is part of our education programme and is very important; because in 9 out of 10 cases, a woman becomes aware of a lump in the breast herself if she does a self examination regularly.

Cytological examination of the uterine cervix is an extremely valuable screening device in the early detection of cervical cancer. Cervical and vaginal smears are taken and sent for screening to the cytology laboratories. This is a simple test, but it helps in the diagnosis of cancer in its earliest stage even when it is invisible. Cervical dysplasia can be diagnosed by cytological examination of the uterine cervix. Studies of cases of cervical dysplasia of a marked degree, grade 3, have shown that if they are left untreated, regression may occur in a small number of cases; but they are more likely either to persist or progress to intra-epithelial carcinoma.

The Association of Medical Women of India — Bombay Branch — have set up a cytology laboratory at Cama and Albless Hospitals where vaginal and cervical smears are screened for detection of early cancer. A few family planning clinics also take these smears for such studies.

The routine at our Cancer Detection Centres is to refer every suspicious case for further investigations, diagnosis and necessary treatment. Later every such case is followed up by the social worker, the report is entered in

the case file, and the record is completed.

A few figures will give an idea of the incidence of cancer in new and repeat cases.

No. of new cases seen (10 years) 23,249.

No. of cases advised further investigations 993 (42.7/1000).

No. of proved cancer cases 159 (6.8/1000).

The distribution of cancer in these 159 cases was as follows :—

Cancer of the head and neck 82 cases (51.6%).

Cancer of the breast 32 cases (20%).

Cancer of the cervix and uterus 15 cases (9.4%).

Miscellaneous group of cancers 30 cases (18.9%).

Cancer check-up is important for repeat cases also.

No. of repeat cases examined (in 1976) 2136.

No. of Cancer cases detected 4 (about 2/100).

It is important that those who are advised further investigations should do so if they are to benefit by cancer check-up examinations.

D. **Research Projects :** Research in any field requires dedicated workers, time and funds. Cancer research can be carried out under the following headings :—

1. Statistical research.
2. Epidemiological research.
3. Clinical research.
4. Experimental research.

Many Research Institutes all over India are engaged in one or more aspects of cancer research mentioned above. In Bombay the Tata Research Centre established in 1952 is engaged in statistical epidemiological and experimental research in cancer.

The first Cancer Registry of the Indian Cancer Society was established in Bombay in 1963. It publishes statistical reports from time to time after collecting data in Greater Bombay. The first report of the Bombay Cancer Registry was published in 1964.

All the activities of the various voluntary and government aided agencies mentioned previously help towards prevention and early detection of cancer.

Educating the public to take advantage of detection centres requires very careful planning, and intensive publicity by people interested in saving lives. Cancer education and detection should be a country-wide effort.

SOCIAL AND CULTURAL INTEGRATION OF BLIND

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Although there are many categories of handicapped people, I shall confine my discussion to the problem of social and cultural integration of only three categories — the blind, the deaf and orthopaedically handicapped. Each of these groups of handicapped persons has its own special problems concerning social and cultural integration which call for a separate discussion in order to do justice to this vast subject. This, however, is not possible in a short paper. Therefore I shall have to be content with making some general statements regarding the problem of social and cultural integration of the handicapped. I may also add here that I shall deal mainly with social integration of handicapped persons, and I shall only touch very briefly upon the aspect of their cultural integration.

By social and cultural integration of the handicapped I mean the handicapped becoming a part and parcel of society and participating in social and cultural activities on a basis of equality. When handicapped people are not regarded as a separate class inferior to or different from non-handicapped persons and when they are treated as normal human beings having some physical disability and yet capable of functioning as responsible and contributing members of the community, then, and only then, can we say that they are fully integrated into society.

Thus, social integration of the handicapped means their free and full participation in the mainstream of community affairs and sharing as equal partners the rights and responsibilities with their non-handicapped fellow-beings. This complete integration of the handicapped into society is, I think, the ultimate goal of all rehabilitation services undertaken by governments and voluntary organisations all over the world.

While discussing the problem of social and cultural integration of the handicapped, it must be borne in mind that, because of their handicap and also a small percentage of the world population, they constitute a minority group requiring special considerations and concerted efforts on the part of the community to enable them to achieve their full integration into society and also to become its contributing members like other normal human beings. We must not lose sight of the fact that the whole social order is geared to suit the needs and abilities of non-handicapped people; and this puts the handicapped to a great disadvantage not because they are intellectually inferior to the non-handicapped but simply because they suffer from a physical disability which reduces their opportunities to achieve education, employment and rightful social status. It is, therefore, imperative to provide the handicapped with such special facilities as are necessary to increase their chance to compete on equal terms with non-handicapped persons for obtaining suitable education and training gainful employment and respectable position in society.

I may add here that providing these special facilities to the handicapped would not constitute a "preferential treatment"; it would rather be an "equalising treatment" which is necessary to enable handicapped persons to have an equal opportunity for economic independence and social security to which they, as members of the community, are fully entitled and which is essential for their complete social integration. Thus, as a minority group, the handicapped, like other minority groups, ask for only an "equalising", rather than a "preferential" treatment in order to be able to function as equal partners and also to achieve their total integration into society.

There are, however, many serious obstacles which make it very difficult for the handicapped to achieve their cherished goal of complete social and cultural integration. First of all, any physical disability — whether it is the loss of sight, hearing or a limb — greatly affects the outward appearance of a handicapped person. Because of his physical disability he looks different from others and therefore is considered abnormal. Unfortunately, the physical disability of a handicapped person becomes his distinguishing mark, and this considerably hinders his integration into his family and the community. A handicapped child is often segregated from his playmates, because he is not considered fit enough to play with them in a normal way and to compete with them on equal terms. Sometimes the parents are also ashamed of their handicapped child and so they try to conceal him from their friends and relatives.

All these factors greatly reduce his chances to come into contact with normal children resulting in his social segregation. Moreover, his physical disability makes it very difficult for a handicapped child (and virtually impossible for a totally deaf child) to receive education along with normal children. A blind or a deaf child often receives his education in a special school along with the children suffering from the same physical disability. This also considerably hinders his social integration from the very beginning, because he learns to identify himself with a special class of children virtually isolated from society. Thus, a child's physical disability causes serious problems in achieving his social integration.

It is, however, worth emphasising here that the physical disability of the handicapped is not by itself the only (or even the most important) factor causing their social segregation. The greatest hurdles in the path of their social and cultural integration are several prejudices or misconceptions widely prevalent in the general public regarding the handicapped. These misconceptions or prejudices against the handicapped are caused by the ignorance of the public concerning their capacities or abilities.

As I have pointed out earlier, the handicapped are in a minority and, therefore, very few people get the chance to have a personal contact with them. Moreover, we do not have an adequate literature dealing with the problems and capacities of handicapped persons; and whatever literature is available, it is not widely circulated among large sections of the public. Consequently, the general public remains almost totally ignorant of the needs, problems, capacities and abilities of the handicapped. This accounts for unrealistic attitudes, misconceived notions and a lack of sympathetic understanding about handicapped people on the part of society. They are often regarded as not only different from and inferior to non-handicapped people, but also as mere objects of pity and charity, totally helpless and dependent upon others, economically unproductive and incapable of functioning as responsible citizens. Instead of being treated as normal human beings with common basic needs, desires and weaknesses, they are, in most cases, either rejected or overprotected by their relatives and friends.

It must, however, be added here these prejudices or irrational attitudes of the public towards the handicapped are not due to any kind of hostility or ill-will for them. In fact, as indicated earlier, they arise from people's lack of knowledge about the problems, needs, capacities of the handicapped and also about the effects of their physical diabilities upon their vocational efficiencies. Because of this

ignorance it is often erroneously assumed that the physical disability of an individual is synonymous with his intellectual inferiority, occupational handicap and even emotional instability. But this assumption has been conclusively proved to be false by outstanding achievements of handicapped persons in almost all important areas like education, administration, law, teaching, fine arts, journalism, medicine, business, industry, politics, etc.

Unfortunately, these great achievements of the handicapped have not yet been fully appreciated by society which still continues to attach disproportionate value to physical perfection. A person having any physical disability is still considered to be necessarily inferior in all respects to a physically fit individual. This erroneous notion about man's physical perfection is, indeed, a great obstacle to social and cultural integration of the handicapped.

In addition to these social barriers, some undesirable psychological reactions felt by a majority of non-handicapped people towards the handicapped also greatly obstruct the path of their social and cultural integration. These reactions are frequently manifested in such emotions as pity, fear, repugnance, anxiety, etc. These emotions are felt towards the handicapped because they are considered to be different from and inferior to non-handicapped persons. The physical disability of a handicapped person spontaneously creates pity in those who come into contact with him for the first time, since they regard him as a helpless individual incapable of doing anything for himself. But an educated and self-respecting handicapped person strongly resents this feeling of pity, for it greatly lowers his personal dignity and hurts his self-respect. He, therefore, deliberately avoids those who, by words or actions, express pity towards him. This creates a psychological chasm between the handicapped and the non-handicapped making their genuine integration virtually impossible.

Moreover, owing to lack of knowledge about the handicapped, many people experience the feelings of anxiety and uneasiness when they come into contact with them. The handicapped appear to them strange and unknown people with whom they find it very difficult to establish normal relationship. They are afraid that they may do or say something which is out of place or which may injure the feelings of the handicapped. This is why many people often avoid contact with handicapped persons making their social integration very difficult. In short, these psychological reactions towards the handicapped also create serious problems for their social and cultural integration.

After stating some of the major obstacles to social and

cultural integration of the handicapped, I want to put forward a few suggestions to promote their total integration into society which, as I pointed out earlier, is the ultimate goal of their rehabilitation.

(1) We must give correct information to the public regarding the problems, needs and capacities of the handicapped and also regarding the effects of their physical disabilities. All important mass media — such as press, radio, television, films, etc. — should be used to achieve this objective. The public should be made aware of the fact that a handicapped person is a normal human being having some physical disability which need not affect his social behaviour, emotional maturity, intellectual calibre and occupational efficiency in all areas. He does have certain limitations caused by his physical disability. But who can claim to have no limitations at all? So, if a handicapped person is unable to do some thing because of his physical disability, this should not be taken to mean that he is basically a strange and different person.

The general public needs to be told that any disability does not alter man's basic needs, desires, emotions and drives that govern our lives, therefore a handicapped person should be treated as a normal human being who requires our help and co-operation on certain occasions as any other human being does. If this awareness concerning the handicapped is created in the public through modern mass media, it would considerably help to promote their social and cultural integration. I am, however, sorry to state here that our film producers have rendered a very great disservice to the cause of the handicapped in general and of the blind in particular by depicting them in their films as totally dependent and helpless beggars, who are mere burden upon their family and others. I am at a loss to understand why these producers do not present the handicapped as successful and contributing members of society. Is this not a reality to be presented before the public through the medium of films? I hope that our film producers and directors would give a serious consideration to this important social problem which has a direct bearing upon the integration of the handicapped into society.

(2) The handicapped should be given equal opportunities for their education, training and employment. It is the responsibility of society to make satisfactory arrangements for their education and employment and to remove, as far as possible, their special difficulties in these areas. This is an urgent need of the handicapped, because an educated and economically self-reliant person alone can be fully integrated into society. Voluntary organizations for and of the handicapped have a very important role to play in pro-

viding them with rehabilitation services for overcoming their special problems in the spheres of education, employment and social adjustment. It is quite obvious that a satisfactory solution of the special problems of the handicapped in these areas is a necessary condition for their social and cultural integration.

(3) The handicapped should be encouraged to participate in social and cultural activities along with non-handicapped people. When a handicapped person attends a social gatnering or a cultural programme, he should be encouraged to participate in it actively and to mix up with as many people as possible. This would give him an opportunity to develop friendship with non-handicapped persons and also to explain to them how he functions successfully in his family and occupation. This would also enable non-handicapped persons to have a first-hand knowledge about the methods and techniques used by the handicapped to discharge their normal duties and responsibilities.

Thus, encouraging the handicapped to participate in socio-cultural activities on equal terms and to mix up with other people for developing friendly relations with them is, to my mind, the best way to promote their social and cultural integration.

(4) The handicapped should be thoroughly trained in all important skills of communication which would enable them to keep themselves in constant touch with non-handicapped people and thus would help to promote their social and cultural integration. The blind should be taught not only Braille writing and reading, but also typing proficiently so that they may become self-reliant in communicating with sighted persons. They should also be given an adequate training in mobility and orientation for enabling them to become self-dependent in travelling which is necessary for their social integration.

An average blind person who depends upon his sighted guide to go out of his home can hardly hope to develop social relations with a large number of people. This lack of mobility may result in his forced social segregation. The deaf should be thoroughly trained in lip-reading besides manual alphabet. An intelligent deaf person can considerably overcome his acute problem of social communication by his proficiency in lip-reading.

The orthopaedically handicapped should be trained to use their artificial limbs effectively so that they may increase their mobility which is essential for them to have wide social contacts with people. In short, the handicapped cannot hope to achieve their social integration without mastering these various skills of communication.

(5) The handicapped should be helped to accept their physical disability in a realistic manner to overcome its effects to the maximum possible extent. Sometimes a handicapped person fails to face the hard fact of physical disability and becomes oversensitive about it. This makes his social integration considerably difficult, because people find it hard to establish normal relations with him and try to avoid his company as far as possible. Those who work for his rehabilitation should make him aware of this painful fact and should encourage him to accept his handicap by avoiding to be oversensitive about it. This would enable him to remove a great hurdle in the path of his social integration.

(6) The hadicapped should realise that their social and cultural integration is not possible without their own concerted efforts to achieve this goal. They must strive to promote their total integration into society by all possible means. They should always act on the spirit of give and take and should try to develop friendship with non-handicapped persons on the basis of equality and mutual co-operation. This can be done only when the handicapped are willing to help others and do not merely thinks in terms of getting concessions or privileges for themselves. Moreover, to have the respect and friendship of other people they must prove themselves to be capable of functioning in all important areas as normal and responsible members of the community.

I may conclude by saying that it is only on the basis of mutual co-operation and equal partnership between handicapped and non-handicapped persons that the ultimate objective of promoting social and cultural integration of the handicapped can be achieved.

SOCIAL AND CULTURAL INTEGRATION OF DEAF

By Miss SURRENDAR SAINI,
President, All India Federation of the Deaf
and
Chairman, Delhi Social Welfare Advisory Board.

Revolution signifies change and it may be in any field of life and the society. "Total Revolution — what about the Handicapped" is very specific, indicating that while revolutionising the society, the handicapped must be given due attention and their rightful place in the total set-up. Scientists, psychologists and educationists have conducted many valuable researches in different fields of human welfare but few realise the emotional and other allied problems of handicapped persons. Their basic social, cultural and economic needs do not differ from those persons with normal physique or intellect. This fact should be recognized and steps should be taken to ensure that persons with physical limitations are given equality of opportunity in every sphere of our national life.

There are many kinds of physical disabilities — mental and physical. Some have been crippled from birth while others through injury or accident have lost the use of their limb. Besides, a large number are blind, partially blind and an even larger number are deaf and unable to hear the spoken word or carry on a conversation. These persons are mentally alert, physically sound and have as good a personality as any other normal person.

Deafness is a handicap which has, so far, attracted less attention of the society as compared to the other handicaps because it is not visible to the eye. Deafness is exposed only when there is an occasion of communication with other people.

"There are two basic groups while recognising possibility of overlap and moving from one group or within the group."

1. Deaf: Those in whom the sense of hearing is non-functional for the purpose of ordinary communication by means of hearing.

2. Hard of Hearing: Those in whom the sense of hearing, although defective, is functional, with or without hearing aid, to some degree, for the purpose of ordinary communication by means of hearing.

Among the deaf are:

(a) Those who were born deaf, who can speak intelligibly and read the lips.

(b) Those who were born deaf, who can read the lips but cannot speak intelligibly.

(c) Those who were born deaf whose speech is intelligible but who cannot read the lips.

(d) Those who were born deaf or lost their hearing at an early age who neither speak nor read the lips. (Their main method of communication is through the language of signs and writing.)

(e) Those who communicate through finger spelling, signs, partial lipreading and writing.

(Among the above groups are those who have excellent language while at the other extreme are those who cannot construct simple sentences or comprehend simple instructions.)

(f) Those adults who lost all of their hearing (suddenly or gradually) after the establishment of speech and language.

(Group 'f' while not having the educational difficulties of those in 'a' — 'e', often have significant adjustment problems. Their chief means of communication is by speech and lipreading and also writing when necessary). (See Appendix A for details.)

It is thus very clear that the problems of the deaf need very careful handling. Since the degree of deafness varies from person to person, there cannot be one common solution. Each group merits a different approach.

At the same time, it is imperative that they are no longer kept in segregation, altogether, for their education, training and employment. They need to be integrated into the society, with normal hearing people. It is worthwhile to provide avenues for integration of handicapped people, of all categories, with normal people, at certain stages and platforms.

The process of integration should start from homes to schools, play fields, cultural centres and work places. My experience has been that even parents of handicapped children develop an attitude of indifference. It is invariably felt that where there are normal children in the same family, the handicapped ones develop emotional problems of insecurity, inferiority and jealousy. The parents need to develop a healthy and harmonious atmosphere in the family to facilitate the development of the handicapped child under normal circumstances.

In Denmark the "Education (Primary Schools) Act" provides for special classes to be set up for the benefit of children who because of speech defects, poor vision, defective hearing, low intelligence or retarded reading ability, are unable to derive sufficient profit from ordinary instructions. Such special education however will not immediately be provided to any child with one or more of the disabilities mentioned above. Efforts are made to tackle the problems of the individual child within the framework of ordinary class instruction, by paying special individual attention to the child in the form of help and guidance possibly through the use of special teaching material.

The problems of a child who is slightly hard of hearing may thus be overcome, say through providing of hearing aids, through special placing in the class room and by efforts on the part of the teachers for distinct speech, if necessary, directly addressed to the child."

Where problems of a handicapped child cannot overcome in this way, within the framework of ordinary school instruction, special instruction may be provided on the basis of a careful consideration of the needs and potentialities of the child as a **supplement** to the ordinary instruction, if the child can do with special instruction in one or more subjects while taking part in the ordinary instruction of the class."

"In certain cases it will be necessary to transfer the child to a special class either because its general education must be organised in that way or because transfer to the sheltered environment of a special class is required for other reasons. Special classes may be provided either at the municipal school or at a separate school.

"Where the disability of the child is so severe as to prevent it from benefiting from primary school instruction, including that of a special class, the child is admitted to a school for handicapped children". (See Appendix B for details).

Besides, there is a "Special Act," in addition to the provisions of the 'National Assistance Act,' in Denmark,

which provides for the establishment of a Board, called the 'Deaf Persons Board'. The business of the Board is to follow the development within the care of the deaf and make recommendations to the Government to improve that care.

The 'Special Act,' in Denmark, provides for notification to be made to the 'Deaf Persons Board' of Children who are deaf or hard of hearing to such a degree as to be unable to benefit from the instruction given in the ordinary primary school or the special classes for children of defective hearing. Facilities of pre-school age are provided through cooperation between the district schools, the State Examination and Guidance Clinic for Deaf and Partially Deaf Children and the State Hearing Centres. Arrangements are made for a thorough parent guidance through regular visits to the home.

Where possible, the child is admitted to a nursery school for children of normal hearing or to one of the nursery schools, attached to some district schools. The children are subject to compulsory education from the school year commencing in the calendar year in which they reach the age of seven. At that stage it is decided whether the child will be able to manage in the ordinary school or whether it should be admitted to one of the schools for the deaf, having regard, among other things to the consequences of a change of environment. The latter step is taken only where it is not possible to overcome the child's handicap in the ordinary or special classes of the normal school. The period of comoulsory education is normally nine years. Statutory provision has been made for the state to run the necessary number of district schools for deaf and partially deaf children.....A school bus is provided for the schools for the deaf so as to largely permit the children to remain in their homes". (See Appendix C for details).

Problems of the deaf are not much different in any part of the world, atleast, not in India. In fact, here, the problem is more acute in the absence of any reliable data about the deaf in particular and about the handicapped in general. Naturally, the planning of welfare programmes for the handicapped remains more often on an ad-hoc basis. Therefore, it is very necessary that urgent steps are taken to collect even sample data to ascertain the magnitude of the problems of the deaf.

Economic Rehabilitation of the Deaf is very important, no doubt. It is preceded by proper education and training in different vocations, keeping in view the ability and aptitudes of the deaf. But all this remains incomplete, unless there is proper integration at the social and cultural

levels. They should be married and raise families like normal hearing persons. They should be encouraged to take part in cultural activities along with performances of the normal hearing people. Theatrical performances can be encouraged.

The normal hearing world should be open to the deaf so that there is proper understanding on both sides and the handicapped group is not let alone to bewilder and feel lost in this vast world of humanity.

I would like to mention here that a National Workshop on improved opportunities for the Deaf was organised in 1964 by the U.S. Department of Health, Education and Welfare. It was assessed therein that "while the public school vocational offerings serve the hearing students very well, and can be handled by the exceptional deaf student, lack of communication between the average deaf student and the public school instructor presents a generally insurmountable barrier.....It was widely felt that insufficient attention is being paid to prepare them to fit into the hearing world upon leaving the school". (See Appendix D for details).

Human will and desire for independence transcend physical handicaps. Experience has shown, that given opportunities for education, training, employment and social and cultural integration, the physically handicapped, like any other normal person, can make valuable contributions to the society.

On the other hand, an atmosphere of rejection bordering on social ostracism cannot but evoke strong feelings of despair, and hostility among the physically handicapped, which are the main causes of warped personalities. It is therefore the prime function of all those concerned with the welfare of the physically handicapped—parents, teachers, instructors, social workers and the Government, to dispel apprehension and promote the social integration of the physically handicapped and assure them their rightful place in the home and the community.

DETAILS OF APPENDIX

Appendix A : P. 3-4 Orientation Training for Vocational Rehabilitation Counsellors, American Hearing Society, Washington D.C.

Appendix B : P. 27-28, Rehabilitation and Care of the Handicapped in Denmark.

Appendix C : P. 67-68, C-12, Rehabilitation and Care of the Handicapped in Denmark.

Appendix D : P. 7-8 , C-1, Proceedings of a National Workshop Deaf, Washington D.C.

SOCIAL AND CULTURAL INTEGRATION OF ORTHOPAEDICALLY HANDICAPPED

By TAPAN KUMAR DHAR,
General Secretary,
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What I shall tell you in this paper is coming from the platform of self-experiance and my feelings as a handicapped person, affected from polio from the age of five. I remember my parents and other members of the family used to think about me as a lifelong burden. It never occurred to them that some day I could also be an earning and productive member of the family and of the society as well. I presume that most of the parents of the handicapped children apprehend something like this when a handicapped child comes in their families. This is our age-old superstition about the disabled and it gradually leads to a disintegration and makes the handicapped a segregated group.

A man has different facts to his life. And a handicapped is also a man. His thoughts, his aspirations, his imaginations or his revelations and feelings of life are not different from those of any normal human being. But, unfortunately, the society, nursing prejudice like many others, has taken the handicapped people as a segregated and isolated group of people.

The word 'integration' signifies equality of status whether economical, social or cultural. But do we find such equality in practice? Eventually the handicapped people are separated as a segregated group, separated by the society from normal people and their social and cultural activities.

The integration of the disabled means the inclusion of the disabled people in the normal course of life and all the activities of society in all possible ways to the fullest extent. It may be inside the home or in the outside world, in the family or in the community.

Towards integration, the handicapped has also a great part to play. Integration is possible only if the disabled possess a positive attitude. A handicapped person should exercise his potential capacities and participate in social life, both contributing in a professional capacity taking part in social, cultural and even political activity.

History has proved that, if chances are given equally, a handicapped may turn into a great singer like the late K. C. Dey, a remarkable player like Chandrasekhar or an able administrator like Mr. Lal Advani, the Special Officer, our Department of Social Welfare, or even a head of nation like President Roosvelt of the United States of America.

As a handicapped, I think that if we people merely shed tears within the four walls of our houses and curse our fate and the world at large for our condition, nothing can be achieved. It is my firm belief that freedom and rights have to be earned by convincing the world of our abilities and not by charity or compassion. In my own life, I have tested the truth many times. When I was a school boy I was shy, hesitant and sore over being handicapped. I could make practically no friends; everybody looked down upon me as an isolated poor boy. Thus I spent my school life in a segregated atmosphere and entered college life, where I suddenly discovered that life around me is ever moving and if I let go this moving life because I have a little limitation, I shall be nothing but a stagnant pool where no flower shall ever bloom. Gradually I took up my existence as a challenge. I began to feel and learn that as a human being I have a few basic rights and I shall have to acquire those rights. I came out of the four walls the process being more psychological than physical.

I tried to adjust and adapt myself amongst my able-bodied classmates. Sometimes I had to face an awkward situation, ridicule or pity. But eventually, I found recognition and a place among them, for which I tried constantly.

In my opinion, mental strength gives one real physical strength. It is mental vigour that can make a man real hero whether handicapped or able-bodied.

When we talk of the social integration of the handicapped we mean a lot of things. What are the stages and measures which may give the handicapped people easy access to the social and cultural life of the so-called society? Let me mention a few phases here.

1. Early treatment and medical care: Physical mobility is an essential step towards the successful rehabilitation and integration of the disabled. So we have to diminish

the physical handicap as far as possible. Proper and scientific medical treatment is still not easily available for the vast masses of this sub-continent. Superstition, costly medicine and medical advice, scarcity of infirmary and hospital facilities — these make a large number of people permanently handicapped every year in our country. I leave this part of discussion for the medical men. The only thing I would like to emphasise here is that handicapped persons should be given the maximum facilities to minimise the handicaps, which will lead to their easy social and cultural integration.

2. Proper education and training: Most handicapped children start schooling late for many reasons such as ailments, hospitalisation, financial difficulties and so on. Some parents have even a queer idea that once the child is handicapped there is no point in educating or training him or her. He or she is left to be a parasite throughout life. Some poor families even put their handicapped children to begging instead of schooling. This attitude of the parents has to be changed altogether. And the responsibilities of Government as well as the voluntary organisations in this context is no less than that of the parents of the handicapped children.

We should remember that education and proper vocational guidance would lead the handicapped to successful rehabilitation and social integration as well.

3. Equality in education is a vital factor in the integration of the disabled. It is my opinion that except for the severely disabled, like the retarded, spastic or quadriplegic, the handicapped (specially the orthopaedic and blind) should be put in the normal schools, with normal children. In this way the handicapped will be free of complexes and behave normally. On the other hand, the normal (able-bodied) students will gradually shake off their prejudices and accept the disabled as a part of their society and not a segregated class of people.

4. Employment and placement: This is a most vital part of rehabilitation and as well as social integration of the disabled. Economic freedom gives a man real joy and self-confidence, and it is ever more true in the case of a handicapped person.

Mr. Henry Viscardi Jr., a champion of self and competitive employment, who himself is a severely disabled, said in his famous book, 'Give Us the Tools':

> "None of us is without limitation, but sheer physical strength is no measure of ability. There are no disabled people — only people. The extremes of physical suffering carry with them a great complement — the

practice to struggle. There is nothing which can substitute for the human right. No honours, no pension, no praise, no subsidy can replace the wish to work in dignity, in free and open competition with all the world."

I remember the day when I finished my studies and went to the Special Employment Exchange for the handicapped for enlisting myself for a job. I felt myself as if I was going to a war and when I appeared for the interviews, it was something like I was really fighting in a battlefield. When after several failures and regrets I got my first job, I felt I had won the battle as a soldier.

In my opinion, self-sufficiency and economic rehabilitation are the crucial steps towards the social and cultural integration of the disabled. Society rejects unproductive and idle people. I have seen from my own experience that when I started earning, my family, my society, started considering me indispensible. I was able to create a secure place for myself in my family and the society as a whole. When the disabled person start proving himself a worthy, productive citizen, he will automatically be integrated into the society.

We cannot advise and direct the society of normal people to change their attitude towards the disabled people, but rather we have to prove ourselves worthy and capable and humbly point out to them that 'DISABLED ARE NOT UNABLE'.

From the society or the Government we expect understanding and acceptance, and free smooth access to daily life. The Government has started enacting new laws and formulating plans and programmes to rehabilitate and benefit the handicapped. Sometimes we come across the criticism that any special facility or allowance will make the handicapped weaker and segregated as a special class of people, and so prove a barrier to integration. But I think, in the early stages of establishing the rights of the handicapped and social integration in a country like India, a few special facilities must be given to them at least for a certain period. Special facilities like job reservation, relaxation of age, less rigidity in medical tests etc., implemented, have greatly helped the handicapped.

It may be suggested that a decent pension should be provided to the most severely disabled, those who cannot work at all. Many of the handicapped are under employed or ill-employed; in their case for a pension should be given to make up for the financial losses.

In most of our sheltered workshops the disabled persons earn much lower than they actually need for main-

taining their families. In such cases also Government grants and subsidy is a must to enable the handicapped to enjoy facilities which normal people enjoy.

In this connection I will focus attention on the issue of promotion of handicapped employees. It is found generally handicapped people are deprived of their legitimate promotion and higher positions in spite of having the requisite qualifications. This disintegrated employment of the handicapped is a social injustice which should be wiped out.

I should also mention architectural barriers which sometimes stand as economical, social or cultural barriers for the disabled. In many western countries there are laws to prevent the architectural barriers, so that the disabled have easy access to public buildings like Government Offices. In our country, I know a few disabled people who got jobs but could not accept them or discontinued because of the architectural barriers in their offices.

Social rehabilitation of a handicapped person is the final stage of the process of 'Rehabilitation,. Social rehabilitation indicates many things, mainly the handicapped persons right to love, marry and rear children.

Giving my own example, I may frankly discuss an issue. My marriage is not a love marriage, but is a negotiated one. My wife did not hesitate about marrying me, but in the final stage of negotiation, her parents and relations vehemently opposed it. However due to my wife's firm stand our marriage was happily solemnised. I would place before you the opposite example also which happened to a disabled member of my organisation. A handicapped young man, educated and well placed in a nationalised bank, fell in love with an able-bodied pretty college girl. Their romance lasted for more than two years and finally they resolved to get married. When the girl's parents were approached and the fact of the handicap was revealed, they became furious and discontinued the studies of their daughter. The miserable girl virtually was detained within the four walls of her house while her parents did not hesitate to take the handicapped person to task in front of one and all, despite the girl's family being an educated middle class family. The young man also has become very disspirited.

Love and marriage of the disabled man and woman is still a problem in our society. The handicapped are treated as outcastes and alliance is prohibited between the normal and the disabled. Why? Working with the disabled for the last 12 years, myself being a handicapped

too, I have gathered a lot of experience in this respect. I jot down my conclusions.

(a) The society attaches a stigma to or prejudice about marriage with the handicapped. Many educated persons are against marriage and begetting of children by the handicapped. In their opinion, the handicapped are sick people and the children they give birth too are also not normal. But this idea is basically wrong. I do not know a single example of a handicapped man's or woman's child being born disabled unless it is a case of hereditary disease. I can tell you that my daughter and son are completely normal.

(b) The parents of a normal man or woman can never think that their son or daughter may marry a handicapped. I konw even quite a few social workers, who are enthusiastic supporters of the cause of the disabled not allowing their children and relatives to marry disabled.

(c) I have noticed that girls are more liberal in their views than boys. I know many cases where normal girls have married handicapped boys quite willingly. On the other hand, hardly would you find a normal man marrying a handicapped woman. Incidentally, my wife is a normal woman.

(d) The marriage problem of the handicapped boys, at least in West Bengal, is not so acute as that of handicapped girls. I presume that it is due to many reasons, the principal of which are poverty and dowry system.

Conclusion :

Now, in conclusion, we may ask, whose duty is it to create the atmosphere and environment for social and cultural integration of the disabled persons ?

First, as I have already discussed, the handicapped people themselves must help towards this integration.

Secondly, the voluntary organisations and agencies and social workers have a great part to play in this. Today whatever best has been done in rehabilitation we find as nothing but the result of the tireless and selfless efforts of the voluntary organisations and devoted social workers everywhere in the world. So these organisations can device and demonstrate ways and means for the total social and cultural integration of the disabled.

Thirdly, our Government should enact and implement more laws and rules which give the handicapped a greater chance and facility to enjoy equal rights and freedom with

the ablebodied citizens of our country. If the handicapped are a weaker section of the community, then every opportunity should be given to them to strengthen their rights until they become equal to others, as social integration depends very much on equality of status.

Lastly, it is the duty of the educated, enlightened ablebodied peole to accept the handicapped as a part of the society. Like many other superstitions, the idea of keeping the handicapped segregated should also be wiped out soon.

SOCIAL AND CULTURAL INTEGRATION OF MENTALLY RETARDED

By **P. NARAYANAN,**
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The existence of the mentally retarded is as old as the human history. One of the striking aspects of human nature is its endless variety. Only rarely do we see human beings who look alike and of approximately the same height and weight.

But, unfortunately till the 19th century, this fact was not realised. Mental retardation was considered as a menace to the progress of race, root of all social evils, burden of civilisation. So, segregation was considered as the most acceptable and practicable form of care. This wrong attitude of society slowly changed due to various advancements made in fields like psychology, medicine, education and social work.

There is an increasing awareness among the public that the retarded should be given every opportunity to develop their potential so that they can grow up and lead as full and satisfying lives as possible within the community.

But, it is rather unfortunate, that the retarded, who constitute 3% of the population, have not received all they deserve because of certain prejudices, wrong notions of their fellowmen.

The biggest misconception is, mental retardation being considered as mental illness and it is hereditary. Further, it is wrongly imagined that the retarded have more criminal tendencies and sexual perversions. The fact that there is no "cure" for this condition, makes people think that these people can never become useful citizens.

Because of this attitude, the presence of a retarded child creates many problems in the family. At the outset, the parents find it difficult to accept the fact that their child is retarded. All their fond hopes about the new born child are shattered, when they hear the physician's diagnosis. They feel guilty and blame their 'Karma' for having

got a retarded child. Because of these unconscious reactions, they shower too much love on the child and spoil him by too much of "spoon-feeding".

They overprotort the child so much that he never learns even "self care activities" like dressing, washing, combing etc. and always he remains dependant on others. They waste more time, energy and money on the retarded child and this creates jealousy in the sibblings.

The parents avoid many social and religious functions and do not even call on their kith and kin. They find it difficult to go on excursions or holiday trips. They cannot even go for shopping, leaving the retarded child at home. The family gets slowly isolated. The mental agony and the suffering the parents undergo cannot be expressed in words.

Usually the sibblings take cue from their parents in treating their retarded brother or sister. Sometimes, they are made to feel that because of the retarded child in their family, they do not get good prospective bride or bridegroom, due to the wrong notion that the retardation is hereditary.

In some families, the sibblings hesitate even to go out and play in the neighbourhood, because of the whispers and hushed voices they hear around.

Parents start quarrelling among themselves as to who is responsible for the child to be born. This unnecessary suspicion ends in breaking the family itself.

To prevent all these unfortunate and unnecessary happenings, the parents need proper counselling and guidande, so that they will understand the problem in its proper perspective and try to help the retarded. For this, we need child guidance clinics or diagnostic centres to be set up, so that the retarded are detected early and some proper follow up action is taken. This will help both the retarded and their families.

Concerted efforts should be made in different fronts to remove the misconception and prejudices from the minds of the public, so that the retarded may be integrated — socially, educationally and economically.

Prejudices may be eradicated by mixing the retarded with normal children at an early age, because children do not have misconceptions about the retarded, like the adults. They mix with each other without reservations. Children do not redicule the handicapped but accept them easily. So, the integration should start right at the KG level, by forming "play groups". Voluntary organisations like the Scouts, Y.M.C.A.s, Y.W.C.A.s and the other social service leagues can play an useful part in organising re-

creational activities for the retarded, by making use of the existing facilities provided by the educational and municipal authorities.

We should remember that integration does not occur spontaneously; it calls for planning, thorough preparation and a great deal of imagination and determination, if it is to be effective. Integration can take place only at a pace that the society can accept. Hence, the community should be prepared to that it will change its attitude towards the retarded and realise that they too can find an useful and acceptable place in the social order, if proper measures are taken.

As we all know, initially residential centres were set up by charitable institutions, or benevolent individuals to shield the handicapped from contact with a hard and generally unsympathetic world. The main objective was to protect these less fortunates from society rather than to prepare them for life in these centres.

But, it is now being realised that the retarded need not be segregated from society and education and training, specially adapted to the needs of the handicapped, can be provided in special schools or classes in normal schools or even in a child's own home. The educational authorities should accept the responsibility of providing various facilities for the betterment of the retarded.

It is gratifying to note that a small country like Japan has set up more than 1,200 centres for educating and training the retarded — with fully trained staff — about 1½ lakhs of retarded — who constitute 30% of the retarded population — attend these centres. On the other hand, we have set up only 150 centres in which 5,000 children are being helped, while we have about 15 million retardates with us.

In a developing country like ours, we cannot afford to have numerous residential centres. Further, all retarded need not be kept in residential centres. The easiest and most practicable and economical way is to provide day-care services of different types, making use of the available resources. Instead of separating the retarded from the family and thereby creating many problems, we should keep him in the home but provide various services to improve his condition.

We need not build special schools and other facilities for the retarded. We can make use of the existing class rooms, playgrounds and other physical plants, to teach and train the retarded. When the retarded live in the same street where normal children live, and go to the same temple or church, why should they not go to the same school ?

Only in the case of severely retarded with additional handicaps, we may have to provide special services, separately.

We must remember that, though integration is a laudable idea, it is difficult to achieve. Even developed countries have to face many problems. For example, in U.K. Youth Clubs were open to the adult retardates. But the retarded could not enjoy all the programmes. It was really a torture rather than enjoyment. This was a set back for the integration enthusiasts. The problem was studied and it was decided that on certain days and timings, the youth clubs would be used by the retarded alone. Special programmes catering to their abilities and aptitudes were arranged.

We cannot consider this segregation, because all the programmes were arranged and conducted by college students and other volunteers interested in the welfare of the retarded. Because of this modification, youth clubs have again become popular. This indicates that we should proceed cautiously; otherwise over enthusiasm may defeat the purpose of integration.

Another area in which the retarded can be made an integral part of society is the vocational rehabilitation. Society must realise that retardation does not mean that the person's total being is retarded. Only intellectual capacities happen to be retarded. He may have other skills and aptitudes in which conceivably could excel other workers. Those skills and aptitudes can make him a valued worker. By proper assessment and training, if he becomes an earning member of his family, instead of being a liability, his "self-image" as well as "social image" will change. By making him useful citizen, society is only carrying out its obligation towards members of the weaker section. Unlike his counterpart in the West, the retarded in India is fortunate because agriculture and other allied rural crafts like poultry, dairy, piggery etc. still offer a vast scope for his useful employment.

Those who are in urban areas can be given vocational training for semi-skilled jobs and employed in suitable jobs in open employment or sheltered workshop.

One of the hurdles we face in this areas—there is no respect for manual work and society look down up on certain types of occupations. Even parents consider certain jobs as menial because of trivial social considerations. This attitude needs to be changed. Each worker, whether he is a cobler or carpenter, scientist or shop-keeper, has a definite place and adds colour to the mosaic of society.

At present, we have special employment exchanges which help the physically handicapped only. These ex-

changes should cater to the retarded also and wherever possible, provide them some suitable jobs. We should not discriminate one handicap against the other.

At this juncture, I wish to appeal to the Government of India that all concessions and assistance given to the physically handicapped, should be extended to the retarded also.

Unlike the physically handicapped, the retarded luckily do not have many physical barriers preventing them from mixing up with others. Only in the case of the severely retarded with multiple handicaps, the movement is restricted.

Integration through marriage is not an easy question to answer. It should be decided on individual merits of the case. Usually the marriage among the retarded is discouraged, not because that will result in retarded children being born but because the retarded partners will not be able to run the family and look after their off springs properly and this will subsequently create many problems.

Before conclusion, I wish to caution that, though the idea of integration may be a laudable one but a difficult one to achieve and there are some limitations. The changes of integrating the physically handicapped with the normal are brighter, when compared with that of the retarded. Some of the severely retarded may never likely to lead an independent existence. In seeking to integrate these retardates, we may even deny them the genuine community of interest which derives from association with others who are similarly handicapped and share a common fund of experience.

Educating the public is the corner stone for the successful implementation of any social Welfare Programme. It is more so in the case of the retarded, who have already waited too long to get their due from the community. The presence of these innocent, helpless children is a silent but grave commentary on the indifference, inadequacy, ignorance and inefficiency of the bureaucracy towards this gigantic human problems. Before it is too late, steps should be taken to improve their condition, by providing the required services.

SOCIAL AND CULTURAL INTEGRATION OF LEPROSY ARRESTED

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Leprosy is an infectious, communicable disease caused by a germ known as Mycobacterium leprae, discovered in the year 1873 by Norwegian Dr. G. A. Hansen. The disease is being transmitted to healthy people by close contact. Leprosy is a problem of disease, deformity and destitution associated with social stigma and ostracism.

Th belief about leprosy is still strong enough to upset the social status of a person suffering from this disease. For example, it is still regarded by many people as the side effect of Venereal Disease, hereditary or divine curse etc. The patients lose their confidence by these types of belief and they feel no longer secure in society.

The patient should be explained correctly about the true cause of the disease and advised that leprosy is curable. In no other disease do social and psychological factors loom so large as in leprosy. It is also important that he should be assured that in the early stage of the disease modern drugs will effect a complete cure. It is common for the more highly educated persons who finds he has leprosy, to suffer deep depression, and he needs sympathy and encouragement to overcome this.

Social Problems in Leprosy

Psychological: There are more psychological disturbances among educated adults who are already employed or to support the family. They fear from the rejection by society and also thinks that his family members might get infected. This leads to psychological trauma to the patient.

Social: In the higher strata of the society, a leprosy patient, has to face the problems of arranging the marriage ceremony of his children.

Economic: Leprosy creates socio-economic problems also. There are two main causes.

(A) Deformities, disabilities resulting from the disease which cripples the patients.

(B) The persons suffering from leprosy cannot find work even after treatment due to the wrong notion of the public that this disease is incurable.

Because of public prejudice and the crippling deformities the patients suffer untold misery and lose his work and it is difficult to get any work when he returns from leprosy hospital and treatment. Even a non-infectious able patient has to go to begging for want of suitable means of earning for his livelihood.

Wrong Faith of Society

There is belief among the people that the disease given by God cannot be cured by man-made medicines and so urge for taking treatment is lost. Their faith is inclined towards worship and so they take such practices very easily.

To a large section of population leprosy appears to be mysterious and inexplicable. They resign themselves to the belief that unless a person is a special victim of "Heaven's wrath" mere association with an affected person could do no harm. They become absolutely indifferent to taking any precaution against the disease.

And so long as the wrong faith is not removed from the patient's mind the essential interest in and the co-operation for the eradication of leprosy will be difficult to get.

Obstacles: There are psychological obstacles. They can only be achieved by education and knowledge about leprosy. There is also a part of ourself to show about the nature of the disease, effective modern treatment method of prevention about the cure of the disease to the society so that there might be change in traditional attitude of society towards leprosy.

Preventive aspect of leprosy in society: Leprosy can be prevented in any community by (i) Avoidance of close contact with infectious patients. (ii) Keeping children away from contact with the patients, particularly infectious patients.

These two steps do not require that the patient should be driven out from the family or society. It only requires that the patients should sit, sleep and eat apart from other members of the family. Special care should be taken to look after that children are prevented and protected from

contact with the affected person. This only needs adequate awareness and vigilance on the part of the other members of the family and a check on one's natural desire to fondle and care children. If these precautions cannot be adequately observed by any good reasons, other arrangements including admission into a leprosy colony, should be made particularly in the interest of children.

Social stigma : Leprosy is neither a hereditary nor a congenital disease. Unfortunately, the society is ignorant about the true facts about leprosy. There is unnecessary fear and prejudice attached to this disease. The patients conceals the disease because the society shuns him. The society should change its attitude and consider leprosy a common disease as any other disease.

Measure to prevent socio-economic problems :

(a) Early detection and treatment : Early regular treatment cures leprosy quicker and without deformity.

(b) Treatment of the patients in the home : The patients should be treated at home so that the problems of non-acceptance by the family after return from leprosy institutions does not arise.

(c) Education of the public : By known true facts about this disease the people should be encouraged to develop a rational attitude towards the disease and person suffering from it. All leprosy patients are not infectious. Only 25 per cent are infectious. It is a great need to give the health education to the general public, medical men, health workers, the teachers, the leaders of the society, and the administrators.

(d) Education of the patients to prevent deformity : Prevention should be aimed at by educating the patients in the right use of their hands and feet by protecting them against injury, pressure and burns etc.

Social displacement

The term 'stigma' refers to the attitude whereby a leprosy patient is shunned both by himself and by society. For a leprosy patient, rehabilitation is incomplete until he takes his rightful place in the community as an independent, self respecting and useful member. The prevention of social displacement is, therefore very important.

In restoring the leprosy patient to the society the team of medical personnel, social worker, employment officer and others have to co-ordinate activities to meet the particular needs of a particular patient.

Health education programme in Leprosy to society :
Health education is necessary in all the diseases and

in all aspects of health. Hypopigmented, anaesthetic patch or the change of colour or texture of the skin which are the early signs of leprosy. This should be known to the society. The impression about leprosy in the mind of a common man is quite different. A common man equates leprosy to a grossly deformed and ugly beggar. That is why people never associate the early signs of leprosy. They do not know that the early signs, if neglected, may ultimately lead to the picture of a beggar with which they are so familiar.

Society harbours a lot of misunderstanding, superstition, etc. about almost all the diseases. For example, people have wrong notions and superstitions about health matters such as diet or digestion, gray hair or baldness, common cold or fever.

Objective of health education in leprosy:

(i) Spreading basic scientific informfation about leprosy in the society to create conciousness about the early signs of leprosy. As a result, people should seek immediate guidance on the least suspicion.

(ii) Removing misunderstanding, superstitions etc. as a result people should change their attitude, practices and behaviour towards leprosy and leprosy patient.

(iii) Informing people about the various facilities currently available for consultation and treatment.

(iv) Motivating people to take the fullest advantage of the existing facilities.

Removing misunderstanding

Many misunderstandings will be removed automatically with the spread of basic scientific information. We should succeed in dispelling the wrong notion, superstition etc. We should also succeed in changing the attitude, practices and behaviour of the society. A favourable atmosphere should be created. Better co-operation and active involvement of the people will result and this will facilitate early detection and adequate case holding.

Rehabilitation: Crippling due to leprosy is a major problem in India. There are many problems related with leprosy.

(a) As a large number of people are being affected with this disease so there are so many types of fear and beliefs among them and the leprosy sufferer are not accepted by the public. The result is the ostracism of the sufferers. This type of ignorance about the

facts regarding the disease is due to lack of education.

(b) The majority of them have some degree of disfigurement and deformity preventing them from doing normal occupations. If such person belongs to low socio-economic group, they are unable to feed and clothe their families. The consequences are that the sufferers has to go begging. The rich people go underground to conceal the disease and remain averted from the stigma of the society.

(c) The occurrence of deformity and planter ulcer which steadily goes worst in the course of time, in spite of treatment, makes the sufferer indifferent and unconcerned.

(d) Even if the patient gets medical and surgical treatment and the disease is arrested, the deformities and loss of sensation make it difficult for him to get a job.

Rehabilitation of leprosy patient demands a change in the existing attitude of the public, the medical profession and the patients. It is necessary to convince the society that modern methods of treatment have completely revolutionised the outlook of the leprosy patient, with proper treatment and training, which is simple, the patient can lead a normal life like any other.

My appeal to Society

Since leprosy is amenable to cure by medical and surgical methods, I appeal to the society to give up old and outdated ideas and concepts. I also advise the leprosy patients to come forward and receive treatment at the nearest hospital or a leprosy control centre. I am confident that with sustained efforts of the Government of India and the State Government and co-operation of public, it will be possible for us to control this disease and ultimately banish it from our country.

Ultimate aim : One should keep in mind that the ultimate purpose of these educational efforts is to create social and psychological conditions which will encourage householders and patients co-operate in early detection and treatment without any fear of social stigma or penalty.

SOCIAL & CULTURAL INTEGRATION OF CANCER DISABLED

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The very word cancer unfortunately spells death and disaster to most people. There is no other disease affecting mankind which evokes such a wide variety of negative social attitudes, as cancer. These vary from mild embarrassment and curiosity, to pity, over solicitousness and indifference, to fear and total rejection and repugnance. The defeatist and fatalistic attitude towards cancer has so far been the greatest barrier to the social and cultural integration of the cancer disabled. Only a decade back rehabilitation of the cancer disabled was recognized as a practical proposition and social and cultural integration of the cancer disabled can now be achieved. The cancer disabled are difficult to resettle in society. Victims of disease and diseases caused disability, they have been further victimsed by the peculiar and irrational prejudice of society towards their disease, as cancer has always been associated with hopelessness leading to helplessness. These social attitudes should be changed to facilitate the social and cultural integration of these unfortunate people.

Social attitudes towards the cancer disabled are the outcome of an inter-action between the disease, the individual and his environment. This inter-relationship can be changed. It is not possible to effect any change in the character of disease, but the patient and his environment are more amenable to change, especially as better treatment possibilities open up.

Let us see how such a change can be effected in these three different entities.

(a) **The Disease :**

The scope for the change here is limited. If the patient comes early in the course of the disease it can be cured today. Full social integration is possible only for those treated in the early stages of the disease as they have a good diagnosis today. In the advanced stages of the disease, the patient can be in pain and bed-ridden and unfit for any social activities. Even amongst the cancer disabled itself the degree of social integration will vary according to the degree and type of disability. For example, integration of those whose cancer connected disabilities are not apparent or could be covered with artificial appliances, as in the case of those with cancer of the larynx, bones, breast and rectum, would be an easier job than for those with obvious visible physical disabilities such as facial disfigurement, who find it very difficult to be socially accepted and integrated. The higher percentage of oral cancer cases and their advanced condition in most of the cases in India make their integration a difficult task in the absence of suitable facial prosthetics and because of the long time required for the reconstruction through plastic surgery.

(b) **The Patient :**

There are many factors such as age, sex, previous personality, education, status of the individual cancer patient in the family and society in general, as well as his economic status, that affect his total integration. If we consider other factors, integration is easier for a child or an adolescent than for the elderly, whose life pattern is set and who, therefore, finds it difficult to adjust to changed circumstances. The previous personality pattern of the handicapped individual will, to some extent, act as a determinant of his social and cultural integration, later on. It is extremely unlikely that an accident or a disease resulting in alteration of the physical appearance of the individual, will completely wipe out the role played by nature.

A disability may help the individual sufferer to realise his latent potentialities by affording him an opportunity to discover them. It unfolds what has remained hidden. The pre-morbid personality of the cancer disabled individual, must therefore be considered in his psychological adjustment. An individual with a dependant, self-pitying attitude towards himself and to life, will be over-whelmed by relatively minor handicaps. On the other hand, some one, who is self-confident, will compensate for a much more severe

handicap and in certain instances will do better with the handicap than he had ever done before. It is not the handicap that determines what an individual can do after his disablement, but it is the combination of the handicap, the individual and the society that determines an individual's adjustment to his disability.

That is why even when two persons have the same type of cancer caused disability and circumstances, one may become a hero and overcome his disability, while the other may become a helpless invalid, brooding over his past and uncertain about his future, allowing the disability to ruin his life.

The immediate reactions of an individual to the diagnosis of cancer and the disability resulting from surgery, can often be colossal and catastrophic. The sense of loss pervades all fields of activity and thought, even those areas where it can have no significance. To know about cancer is one thing and to live with it is another. The patient with cancer faces a very traumatic and often life-threatening situation, as the diagnosis of cancer is yet always associated with death. Whether the threat of death is real or imaginary, a tremendous emotional strain is placed on the patient and on the family. The potential for helplessness due to uncertainty of the ultimate outcome is yet higher in the cancer patient than in those suffering from other diseases.

Understandably, the cancer patient's problems of integration exceed those of other patients in their intensity, frequency and duration. In addition, the ability to effectively mobilize physical and emotional resources is frequently reduced. Since physical needs are usually given the first attention, emotional needs are considered of secondary importance. The cancer patient, after surgery or other treatment, is like a person stranded at the cross-roads. At this crucial juncture, the cancer disabled feels that he has crossed into a no-man's land of bewilderment, anxiety, doubt, indecision, fear and sometimes sheer panic. Behind him is his 'old self' with an intact body and body image, with plans and hopes for the future; ahead of him, a disabled self who has lost much of his confidence which leads to an uncertain future.

Many of cancer disabled persons never find the way out and keep wandering in no-man's land, wishfully hoping for a miraculous cure which will eventually restore them to their old intact self, never finding the hidden potentialities that might be theirs, if they would accept the disabled self as a fact of life.

Denial of disability, which leads him to forget that the disability exists, may afford a temporary relief from emotional strain. But forgetting the fact, that so obviously stares, however, in the face at every step of his life, is not only impossible but is also ultimately injurious. His 'as if' behaviour may keep others from intruding into his privacy. But, in so far as his intimate relationships with his family and friends are concerned, this imaginary behaviour can have serious consequences.

Persistent "role playing" causes a constant strain amongst the family members. Intimate relationships are based on the capacity of individuals to share one another's feelings. If the normal behaviour appropriate to strangers continues for a long time within the family, all other members will feel estranged.

Acceptance of disability is a basic step towards adequate integration : Acceptance of disability is basic to any programme of rehabilitation, which will not succeed unless the disabled person accepts his limitations and changes his own goals accordingly. Acceptance of loss does not mean denial of the existence of disability, nor does it mean submission to misfortune. It means that the individual should neither overestimate his abilities nor should he underestimate them. He should certainly attempt to shape his circumstances; but if they prove too strong to be altered, he should accept them and change his own behaviour accordingly. The desired state which we call 'acceptance of loss' does not mean becoming reconciled to an unfortunate situation.

Acceptance of loss means overcoming the feelings that one is an unfortunate person — a process which calls for a change in values. In India even the educated cancer patients still believe in the theory of 'Karma' and therefore they submit to their misfortune instead of attempting to change their lot. This sort of passive attitude is a barrier to social integration. Organising clubs for specific cancer disability groups such as the Laryngectomees, Ostomates and mastectomees can also facilitate their social integration.

These patients can discuss their mutual problems and benefit from one another's experience. The Indian cancer Society has organised the Indian Association of Laryngectomees, the Ostomy Association and the Indian Chapter of the reach to recovery group. These groups play an important role in the integration of their disabled members in their family and society.

(c) **The Environment** : Social attitudes vary according to the knowledge a person has about the disease. For example, attitudes of the physician, the surgeon and the para-

medical personnel in a cancer hospital, will be different from those working in general hospitals. There will again be a great difference between the attitudes of the members of a patient's family, his relations, friends and community and the public at large. All these people will have different grades of knowledge and understanding about the disease which affect their behaviour towards the patient.

The major components in a patient's environment are the physical setting and the people with whom he comes into contact during the various phases of treatment. The health care team directly involved in patient-care, greatly influences his reactions to the disease and the response elicitated towards his new environment. The hospital is a physical setting that has a most important impact on the cancer patient even though he may be frequently treated in the outpatient clinic. Although the structured, protected, sterile environment of the hospital is ideally suited to optimise patient care, the patient is expected to and usually does play, a submissive, dependant role.

In some instances, the patient has to be shielded and protected from a potentially disruptive and unpredictable environment. On the other hand, patients who are encouraged by members of the rehabilitation team to achieve the goals of independence and self-care, can do so only in an environment conducive to such an outcome.

An environment which fosters independence, is one in which (i) open and honest two way communication between the patient and the team members is encouraged, (ii) the patient is assisted by team members in analysing realistic goal, and (iii) the patient is encouraged and/or is allowed to become an active member of the health care team, and perhaps even the leader. The primary physician, the specialists and other para-medical personnel, are usually too involved with the medical aspects of survival, to have the time or energy to attend to the patient's need for understanding and acceptance. It is here that the rehabilitation workers can and should play an important role.

The physiotherapist and the occupational therapist can help in the social integration of the cancer disabled, by making them independent in the activities of daily living to the maximum extent possible through planned exercises and prosthetic aids and appliances. Many appliances needed by the cancer disabled persons and suited to our climatic conditions such as breast prosthesis, colostomy bags and irrigation sets — have been developed and are available at reasonable rates at the Rehabilitation Centre, Indian Cancer Society. This has helped the process of social integration.

The psychological needs such as hope, security, love, understanding and expression of emotion, can be met only through the co-operation of members of the patient's family and his immediate social circles. The cancer disabled person must be motivated adequately to accept his disease and its consequences. He and his family must be helped to follow what has been described by Aristotle as the path of the 'Golden Mean' i.e. the middle way between aspirations beyond and below one's expectations.

The cancer disabled individual is not so much concerned about the attitude of the people at large as about the attitudes of those who are intimately associated with him—his family, friends, neighbours, employers and co-workers. The wrong attitude on the part of the intimate social circle may be a barrier to the social integration. Like the patient, members of the family also refuse to accept to face reality and deny the existence of the disease and disability. Over-protection of the cancer patient is also quite common and leads to conflicts in the family by making other members jealous. Spouse-counselling is also important. By providing spouse and family counselling, clubs for those with specific cancer caused disabilities such as the lost chord clubs and Reach to Recovery groups, help the social integration of the patients.

The joint family system and strong family ties in India are positive factors whereas large scale unemployment and ignorance are negative factors in the social integration of the cancer disabled persons in India. Despite their ability to work, many cancer disabled persons are denied a life of productivity, because of the prejudice of the employers. Vocational problems are a barrier to the social integration of the cancer disabled. By providing vocational training along with the able-bodied dependents of cancer patients in its workshop and through employment assistance the Indian Cancer Society promotes social integration of the cancer disabled. Recreational activities and outings for the cancer disabled are also organised from time to time to facilitate integration.

The best method of public education is by making the lay public aware of the true facts about cancer and by exploding the age-old myths about the disease. That public attitude towards a particular disability caused by cancer, can be changed, was demonstrated when Mrs. Gerald Forld and Mrs. Rockefeller in the U.S were operated for breast cancer. After this fact was publicised through mass media — newspapers, radio and television, most American women lost much of their fear of breast cancer and presented themselves in their thousands for cancer check-up. Many behavioral studies are conducted

in the developed countries regarding attitudes towards the cancer disabled. Paucity of funds prevents us from undertaking such studies.

In a country such as ours, the Indian Cancer Society has been trying hard to change the social attitude towards the disease by conducting public education through talks, newspapers, radio, television, exhibitions, and physical demonstration of rehabilitated cases. The task is most challenging in view of the paucity of funds, mass illiteracy and poverty and the traditional attitude towards the disease as crystallised by the fatalistic belief in 'Karma'. I hope that as in other developed countries, with the co-operation of social workers from various agencies, government officials and the general public, it will be possible to remove the uncalled for social stigma and fear attached to cancer, in our country and bring hope and happiness to the cancer patient.

MANUFACTURE OF SPECIAL AIDS AND APPLIANCES FOR THE HANDICAPPED

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Topic for discussion this afternoon is "Manufacture of Special Aids and Appliances for the Handicapped". Having been intimately associated with the setting up of the only manufacturing unit for such aids and devices in the country right from its planning and inception, I would cover the topic based on first hand experiences gathered during the establishment of ALIMCO.

It is proposed to cover the subject, in stages elaborating the need for manufacturing, the assessment of the needs of the handicapped, designing, production planning and execution, distribution systems, fitting and training policies etc.

Need for Maufacturing Facility

The word manufacture has been defined in the Oxford Dictionary as "produce articles by labour or machinery especially on large scale".

On a review of the scene that existed prior to 1973, it is seen that in a large country like India, there existed no organised manufacturing facility worth its name to meet the requirements of aids for the physically handicapped. In all, about 20 odd limb fitting centres existed with small capacities. These centres came up as a result of efforts of the Central Government and State Governments due to the personal interest of a few eminent personalities. Some centres were also set up by private philanthrophic agencies.

Fabrication of devices was done at the centres using nominal manufacturing facilities, basically with skilled labour. This involved considerable time in the fabrication of components thereby causing delays in actual fitting of patients. A patient coming from outside the city had to either stay on or go back and return for the final fitting

Sr. No.	Activity	Manufacture on Large Scale	Shop Scale
1.	Time for fabrication of a device after initial measurement of the patient.	Low, using prefabricated components.	Very high
2.	General quality of products.	Consistently good.	Indifferent
3.	Choice of materials.	Selection of optimum materials possible due to large volume of production.	Dependent upon available local resources.
4.	Quality control on raw material used.	Strict check on material quality can be exercised.	Since the materials are obtained from local dealers, no guarantee possible.
5.	Quality control of products.	Effective quality control measures can be introduced at production stages as also on the finished final product.	Quality control measures not possible.
6.	Advantages of mass production techniques.	Due to large volume handled, use of newer, more efficient and economic quality production processes possible.	Extensive investment in newer production technology not possible.
7.	Servicing Facilities.	Standard range of components permit servicing of devices at any fitting centre anywhere in the country.	Since components are fabricated under local conditions, based on local designs, servicing is difficult at a fitting centre other than where fabricated.
8.	Availability of spares.	Identification and availability of standard spares guaranteed.	Not possible in most cases.

and training involving additional expenditure. Since the financial condition of an average patient in the country is poor, this burden was a deterrent for people to come forward for fittings.

The major advantages of mass manufacture vis-a-vis shop scale manufacture are listed in the table on the previous page.

Besides the above, it can be seen that a centralised large-scale manufacturing activity can afford a lot of flexibility to the fitting centres in selection of the types of devices.

From the foregoing it is clear that if the quantum of production is economical, it is justified to have a centralised manufacturing agency.

Assessment of Needs

Problems of Assessment: Planning for quantity production of devices for the handicapped requires accurate data base to arrive at a product mix consistent with functional and quantity requirements. The data has to be precise to reflect the exact condition of the patient. The problems are generally categorised into two basic categories.

The first category of the problem is non-availability of adequate data from the various hospitals and limb fitting centres. Large volume of patients handled, clubbed with non-availability of an efficient data storage and retrieval system can be ascribed as the main reason for the same. With development of computer systems, and formation of a national informatics centre, the data from all hospitals and limb fitting centres should be stored effectively.

However, the above aspect is only applicable where patients actually visit hospitals for treatment of their problems. Due to inadequate health services there is significant volume of the population not able to avail of hospital facilities. This situation can be best tackled by including appropriate programmes in the National Census which, though essential, will entail delays and may not produce results till the next census.

Design Criteria

The problems in functional rehabilitation in the developing countries are distinctly different from those in the developed countries. No imported system will ever be technically adequate to provide a blue print for solution to local problems. At best the imported system can only provide a guide. Local problems require local solutions.

Designing of aids and devices for the physically handicapped require certain fundamental considerations to be kept in mind. Some of the important ones being:

— Patient linked functional factors.
— Industrial factors.
— Psycho-cosmetic factors.
— Factors of safety and safety considerations.
— Standardisation.
— Quantity requirements.

Patient-linked functional factors :

Patient-linked factors take the highest priority while designing artificial limbs and related products. The major considerations under the design criteria can be as follows :

— Incidence of disease and nature of disability.
— Socio-cultural background.
— Economic status of the patient to be served and over all economy of the people.
— Climatic factors.

Incidence of Disease and Nature of Disability : This is a primary factor where planning will vary from developing countries to the developed nations. For example, polio is still endemic in developing nations while the disease has been eradicated in developed countries. The basic reason being that the preventive measures against polio have not reached the lowest strata of the society in the developing nations due to economic factors and lack of education.

Another important aspect which can be cited here is pertaining to accidents in general. In the developing countries, for example, with the continuing progress on the industrial front there is a high incidence of accidents in industries due to lack of sufficient development of safety measures and training in use of the equipment. Most of the patients in the developing countries are in the younger age group from early childhood to adulthood and in need of devices to rehabilitate them vocationally.

Socio-cultural background : The state of development of a nation has a bearing on its socio-cultural customs. Some socio-cultural customs, however, do not change with time and development. As an example, the custom of visiting 'holy places' with shoes off. In villages, people even today do not enter homes with shoes on. Squatting, sitting cross-legged are some of the others peculiar to India and some other developing countries.

Economic status of the patient and overall economy of the country : Economic condition has a very important role to play while assessing the needs of the handicapped.

Where a very simple device can be used for a patient, a sophisticated one with additional functional features not fundamentally essential can also be provided. Optimum designing is directly guided by the economy of the people.

Climatic Condition :

The type of aids and devices and choice of materials in their manufacture are the factors governed by the climatic conditions. Climatic factors affect the artificial limbs industry in the same manner as any other engineering industry and trade.

Industrial Factors : These are of paramount importance for setting up a manufacturing unit. The planning for design and manufacture should be based on the following factors :

— State of professional technology.
— State of technical advancement of basic engineering industry.
— Availability of important raw materials.
— State of ancillaries development.

State of Professional Technology : To arrive at designs consistent with the functional requirements and engineering considerations, it is absolutely essential to have an infrastructure of technically suitable personnel. This field requires not only skills in engineering and technology, but also a very sound knowledge and understanding of the physiological factors to be catered for. It has to be a multi-discipline approach.

State of Technical Advancement of the Basic Engineering Industry : The manufacturing activity can be put on a proper footing only if the basic engineering industry is geared to meet the requirements of engineering equipment for mass production. A considerably large portion of equipment required is conventional, though a small but very significant variety of special equipment is also to be obtained. The above equipment combined with the skills of carpenters, fitters, tool makers and other skilled personnel will form backbone of the manufacturing facility.

Availability of important raw materials : This is the biggest headache for the designer when tackling an industry like manufacturing of devices and aids for the handicapped. There is wide a choice of materials to be considered ranging from steels and non-ferrous metals to fabrics, leather, plastics and rubber. Unless the engineering raw material industry of the country is developed sufficiently to provide optimum materials mentioned above, it will be a difficult

venture to design rehabilitation aids to any economic purpose. Emphasis should be on maximum utilisation of the indigenous raw material resources. It is a fairly challenging situation.

State of Ancillaries Development: It is customary for economic reasons to depend upon ancillary industries for items which require specialised manufacturing and processing techniques specially when the requirement is not economically large enough to warrant setting up of these facilities internally. In the field of artificial limbs general purpose fastners, rubber-based products, special fabric items, elastic tapes, webbings, stockinette etc. are ideal for ancillaries. A fairly large dependence is placed on the ancillary industries. The available products out of these industries will generally influence the design considerations.

Psycho-cosmetic Factors: It is an accepted fact that for psychological rehabilitation of handicapped, proper cosmesis contributes to a large extent. The most functional device with an unacceptable cosmetic appearance will not be as effective in the rehabilitation as a simpler variety with cosmetically good appearance. Cosmetic factors should never be lost sight of while dealing with the physically handicapped.

Factors of safety and safety considerations

The entire acceptability or otherwise of a device for the handicapped depends upon the confidence that the device can infuse into its user. The factors of safety in the design and materials have to be kept higher. Any failure of a device can cause further harm to the patient, physically and will also destroy his confidence for the future.

Besides factors of safety in the designs, certain essential safety features are also to be built into the devices so that the user can depend upon them in the event of any mishap. These safety considerations will further aid towards mental acceptability of the device by the patient.

Standardisation: Standardisation is one major factor which can reflect on the cost of production and should not be neglected. Unnecessary variety, avoidable inventory and choice of readily available materials are the main advantages that accrue from standardisation.

Quantity Requirements: Production techniques existing today can be selected intelligently at the designing stage itself by understanding the quantum of production correctly. The designer should keep in mind the ultimate process to be followed in the manufacture of devices.

RESEARCH & DEVELOPMENT

The aims of research and development activities can be classified under the following heads :

— Development of new devices in tune with socio-economic considerations;

— Improvement of existing devices;

— Cost reduction through use of cheaper indigenous materials, simpler designs and standardisation;

— Vocation oriented development of devices;

— Effective evaluation procedures for devices;

— Evolving design data by bio-engineering analysis of patient-linked factors;

— Development of new materials, utilisation of internal resources, import substitution etc.

— Development of improved fitting techniques.

Although considerable discussion can be generated on each of the above points, only a selected few are being elaborated upon in the present paper.

Evolving design data by bio-analysis of design data factors:

There is an extreme dearth of basic design data for the designer of devices for the handicapped. Considerable work has been done in the developed nations. But no data relating to special features of designing for the developing nations, is found. Kinematic and kinetic factors, joint motion analysis with linked muscle triggering phenomena, pressure distribution patterns, force studies on appliances and other bioengineering considerations require extensive study to provide the designer with the accurate idea of the problems to be catered for. This activity, though expensive, is absolutely essential for guiding effective designs.

Vocation oriented research : In India where the average age of the handicapped is low, it is of utmost importance that vocation oriented research be carried out to rehabilitate these disabled. Development of modification kits to the existing domestic appliances and industrial equipment at nominal cost will prove a great boon. With rampant unemployment of able-bodied individuals there will be very little incentive, otherwise for the employers to provide gainful employment to the handicapped persons.

DISTRIBUTION POLICY

It is not an easy task to provide extensive limb fitting facilities in a country of the size of India where total

population is of the order of 600 million and where the population of the handicapped is still not fully assessed. Estimates have put the figure at 1.5 million to 3.5 million even 2% to 5% of the population according to various authorities.

To achieve an ideal situation we should have atleast one centre for the disabled to cover a population of approximately one million i.e. it would be necessary to provide 600 centres as of today. With the growth in population, it is estimated that perhaps 13 more centres will be required every year at the present level of population explosion. It is clearly beyond the resources of a country like ours both in terms of money and trained personnel to establish such facilities overnight.

Let us take a look at type of clientele that would be served by a manufacturing unit of the type being discussed. Basically there will be one group of patients who will require an elaborate fitting procedure followed by training in the use of devices. There will be another group who may be given a prescription for a device which can be obtained from the market and used after minor adjustments. Such items could be crutches, wheel chairs, cervical collars, spinal braces etc.

The policy of distribution, therefore, evolves itself — products which require elaborate fitting and subsequent training will be distributed through fitting centres, the remaining items will be sold through retail outlets, dispensing chemists etc.

The problems of reaching the interiors of the country so that gains are widely distributed, can be solved to an extent by providing fitting centres, to start with, in every state followed up by district level centres. Till the time district level centres come into existence, it would be possible for the State level centres to arrange camps so that a team could visit interior areas where on-the-spot clinical examination, prescription and measurement for fabricated in the fitting centres based on measurements taken. On subsequent visits fitting and alignment can be carried out and training of the individual in the use of the devices can be started.

SUBSIDY

In a country like ours where a substantial portion of the population earns just enough to live from day to day, it is extremely difficult for an individual to meet the expenditure on provision of devices. It is, therefore, necessary that devices are sold on subsidised basis. The subsidy could be planned for different levels of incomes.

As it exists today, there are very few schemes from where such subsidy could be made available to the beneficiaries. Central Govt. Health Scheme is one of them. Till some time ago even Employees State Insurance Corporation, paradoxically, though they covered amputation of a limb, reimbursement of fitting costs to rehabilitate the patient was not within their scheme. Of late it has been noticed that ESI has also started reimbursement of costs towards fitting of limbs and devices.

Insurance schemes could be evolved where for nominal premium, a person could be covered against physical impairment and consequent costs on rehabilitation.

A very important role is also expected to be played by the charitable societies and organisations like Rotarians, Lions, Jaycees and many others like the NASEOH, MAG CALAM etc. who can sponsor patients for provision of aids and devices.

It is, however, felt that extensive nation-wide scheme like National Health Schemes will be the only ultimate answer.

TRAINING OF INDIVIDUALS IN THE USE OF AIDS AND DEVICES

The aids/devices for the handicapped are of sufficient mechanical complexity to require training in their use. It is similar to any machine of use in our day to day life. Training should be in phases.

During the first phase, the function of each part of the device has to be explained to the user. At the end of this period, the individual will understand what each part of the device is capable and what to expect from it.

The second part of the training would then be in the actual use of the device. During this period the individual will gain proficiency in the use and control of the device for various activities relating to his needs and even extend it to the requirement of his job and recreation. At the end of this period, the individual should understand not only the positive aspects but also the negative aspects which are equally important for him to keep in mind. At the end of this phase the individual will be proficient enough to know his device but not skilled enough in its use without being conscious of his actions.

The third part of the training is where the patient is required to practice to use unconsciously, all that he might have learnt in the two phases above. The patient will by and by discover for himself or learn from other handicapped persons better ways to control and use the device.

The training will continue till the individual successfully passes a check out.

The training should be planned to accelerate the process of acquiring the skills and cut down the period of training to the optimum. The training should be in an atmosphere where the situations likely to be obtained in practical life are simulated to permit growth of confidence.

A very significant part is played by the attitude of family unit and employers of the individual. The counsellor or the limb fitting unit may guide and explain to them the abilities and residual handicap of the individual. It is pertinent that the family and the employers stress the abilities of the patient and not focus on disabilities. Encouragement in the use of skills developed with the device should be the main aim. Excessive protection on the part of the employers and the family should be avoided.

The handicapped persons best realise their potential when placed in a safe and protective job. Careful evaluation of the ability to use the device, equally careful consideration of physical and productive demands of his job and directing the training effort to meet these requirements can play a role of paramount importance in successful rehabilitation and placement of the individual.

PERIODIC ADJUSTMENTS

The devices as developed are basically of mechanical construction and like others of their class require regular attention and periodic servicing to minimise breakdown. Preventive maintenance procedures should be evolved and individual should be educated on some of the simpler aspects which can be attended to by the individual himself like cleaning, lubricating, tightening of a few nuts and bolts (other than those affecting fitting alignment/functional features) etc. The other major adjustments called upon can be done by the nearest limb fitting facility.

Mass manufacturing techniques to standard designs can be most useful in minimising the time required in carrying out adjustment of devices. Even replacements of damaged parts can be almost immediately obtained.

Attention of the individual should be drawn towards proper servicing schedules for his device at the time of his discharge from the fitting centre. It should be explained to the handicapped that timely maintenance and keeping a device in good shape results in minimum expenditure and delays in restoring to the device its normal function.

INTERNATIONAL COLLABORATION

For developing nations like India, international collaboration has a very important role to play in developing newer designs. It has been already mentioned that there is extreme paucity of adequate design data. Research and development activities can be expensive and can not be generated in a short period of time. Till such time the facilities are adequately available in the country, there is no option but to rely on the research data being evolved by various research organisations all over the world. The data may not be of use directly due to variations in socio-cultural and economic conditions, but it can be used as a basis with proper interpolation to bring it in line with our requirements.

Even for manufacturing devices to cater to the International market, it will be of immense importance to bring the products in line with International Standard Specifications. Efforts are to be continuously made to familiarise with the important developments in the field.

A proposal is also with the International Organisation for Standardisation (ISO) to include artificial limbs, as a new subject for the purpose of standardisation. At present the only coordinating agency in the field is the International Society for Prosthetics and Orthotics (ISPO). However with the standardisation brought in, it is expected that there will be world-wide acceptance of standard products with improved services and techniques. Facilities will generate themselves towards the betterment of the physically handicapped.

CONCLUSION

While concluding this discussion, I would like to take a closer look at the situation that exists today in India.

From the preceding paragraphs it is clear that there is a strong need for having a centralised manufacturing organisation in the country. Non-availability of data to form basis for initiating such activity is a fact. For collecting and storing data at national level no effective steps have been taken so far. The existing hospitals and limb fitting units are unable to provide information required on the subject.

Does it mean that no manufacturing activity should be started at all? Should the handicapped continue to suffer?

It has also been established that existing facilities in the country are grossly inadequate to meet and keep pace with the ever growing demands for devices and aids. With

the state of the limb fitting activity as it exists today the benefits do not reach the farthest corner of the country.

Is it not essential therefore to expand limb fitting facilities in the country?

There is a dearth of trained personnel to man the limb fitting activity in the country. The turnover from the existing units can not meet the demands especially in the use of newer devices.

Is it not absolutely imperative that a fresh look at the training facilities and syllabi be taken?

It is unfortunate that extraneous factors have proved to be a major stumbling block in the spread of rehabilitation activities in the country. There is a misconception that the mass produced components because of the in-built quality and better cosmesis are costly when compared with the shop-made articles. A study was conducted at the Jawaharlal Nehru Institute for Physical Medicine and Rehabilitation, Delhi on this aspect. It was observed that it took 64 man-hours to fabricate a complete long leg caliper starting from raw material. Assuming an average pay of Rs. 278 basic (per month) of a technician and providing for all allowances and perquisites at Central Government rates, it was worked out that the per hour rate of direct labour cost came to Rs. 3.40.

It was also demonstrated practically that using prefabricated components manufactured by ALIMCO, the fabrication time taken was 4 hours. This meant a direct reduction of 60 man-hours. Moneywise it was a saving of Rs. 204 (Rs. 3.40 × 60) per caliper.

Even if the prefabricated components were costlier by Rs. 204 (which is impossible) it would be economical to use prefabricated components as they are far superior in quality, they are more reliable, cosmetically more acceptable and above all can increase the productivity of the Limb Fitting Centres 16 times! The individual's gain will be shorter stay away from home and reduced loss of wages if in self-employment.

Misrepresentations and misconceptions are being generated to misguide the professionals and deprive the handicapped of the better quality products. I can cite an example of another such misconception. There is a misapprehension in the profession today about accepting prefabricated components. It stems from the fear that perhaps the existing facilities at their fitting centres may be truncated. I want it to be realised that manufacturing limbs and limb fitting are two distinctly different activities. A factory producing limbs can not fit them without further diversification of it activity. Similarly a limb fitting centre

cannot by the wildest stretch of imagination expect to manufacture quality devices at economic price.

An integrated practical programme to properly provide and train the handicapped to effectively return him to his job should be the ultimate goal and will be the real tribute to the medical, therapeutic, prosthetic and counselling components of the rehabilitation team.

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REHABILITATION ENGINEERING : A PROGRAMME OF RESEARCH, EVALUATION, TRAINING AND SERVICE

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In 1972, RSA established the first of several Rehabilitation Engineering Centers within the U.S. They were located at the Rancho Los Amigos Hospital in Downey, California; the Moss Rehabilitation Hospital in Philadelphia; the Texas Institute for Rehabilitation and Research in Houston; the Chicago Rehabilitation Institute; and the Childrens Hospital Center in Boston. In recent years, five new centers have been established in Centers Industries, Wichita, Kansas, Smith Kettlewell Institute of Visual Sciences in San Francisco, University of Virginia Medical Center in Charlottesville, University of Tennessee Medical Center in Memphis, and the University of Michigan in Ann Arbor.

Their purpose is to develop innovative methods of applying advanced medical technology, scientific achievement, and psychological and social knowledge to resolve rehabilitation problems through efforts in planning, research, training, and service delivery. This includes cooperative programs in each area with public and private agencies and organizations. These programs are designed to produce new scientific knowledge, equipment, devices, and combination systems which are suitable for solving problems encountered in the rehabilitation of handicapped people and for reducing or eliminating environmental barriers.

Each of the centers then was required to develop official working relationships with institutions of higher education in the fields of medicine, engineering, and related sciences, which would be of assistance toward the development of manpower and training programs with which the techniques, hardware, and systems developed through research and evaluation could be introduced safely into the service delivery systems. This consortium of experts, it is believed,

can make significant contributions to the rehabilitation of disabled people.

In late 1973 and early 1974, following the enactment of U.S. Public Law 93-112, the Rehabilitation Act of 1973, RSA, in cooperation with several other governments, established three additional rehabilitation engineering centers overseas. The 1973 Act authorised RSA to undertake such rehabilitation programmes internationally. The new international centers are located in Ljublijana, Yugoslavia; Poznan, Poland, and Cairo, Egypt.

Because it is considered very important that this large programmes be closely coordinated in order to provide correlated activities and avoid unwanted duplications of effort, these projects are very closely supervised and guided by a select coordinating commission which reviews progress regularly of all projects and recommends needed actions. One of the most important initial recommendations made by the commission was that each center be required to concentrate its research effort on a substantial problem related to rehabilitation which might be solved through the introduction of engineering and related sciences expertise.

Accordingly each center has developed an approved "core" area of research which is seen by each to constitute the area of scientific strength and interest of that particular center and reflects, in fact, the major patient populations that they are dealing with daily. As noted each "core" area is approved by RSA as they relate to critical need and the probability of obtaining usable results in both the short and long term.

In addition to rehabilitation engineering centers, the RSA also supports selected specific research projects in the area of renabilitation engineering. These projects are designed to produce specific information and devices/systems in the short term, but will advance the overall goals of the programme. Specific research projects are supported in both the United States and overseas as integral parts of the rehabilitation engineering programme, and are fully coordinated in the overall rehabilitation engineering effort.

The Statement of Objectives for the Rehabilitation Engineering Programme of RSA, which is fortunately being adopted world-wide, constitute operational objectives that we sincerely believe provide usable guideline for the development and viable operation of any programme of rehabilitation engineering. They are as follows:

1. To improve the quality of life of the handicapped through a total approach to rehabilitation, combing the efforts of medicine, engineering and related sciences.

2. To perform programmatic (visual) research and development toward the solutions of problems of the handicapped through the applications of technology.
3. To collaborate closely with other research and development laboratories and private industry to carry new devices and techniques through all phases of research development, clinical evaluation, and training to assure availability and
4. To make available suitable new devices and techniques to all patients referred.
5. To educate clinical practitioners in rehabilitation to provide these devices and techniques to the handicapped.
6. To participate actively in a centrally coordinated clinical evaluation programme of devices and/or techniques from any source, that they may be of benefit to the handicapped.
7. To provide an environment for education of clinical practitioners, technologists and other professionals in the application of technology to the solution of problems of the handicapped.
8. To communicate effectively with service providers and consumers the results of research and development efforts that have been judged to be of potential benefit to the handicapped and are commercially available.

As mentioned previously, the programme of rehabilitation engineering supported by the Rehabilitation Services Administration is total including both centers and projects. Although presently supported with research funds, all aspects of research, evaluation, training and service delivery are seen as necessary and mutually supportive.

You will also recall that I mentioned the requirement that each Rehabilitation Engineering Center develop an approved "core" area. May I take the time here to describe briefly what is meant by "core" area.

A core area is a single definable R & D area which absorbs the major effort of personnel and supplies in the Center. It is a pioneering area wherein a Center has developed unique capabilities and the investigators are recognized as professional leaders in the world. A Center through its core area activities becomes a repository of knowledge, both through its own activities, through contacts with other professionals throughout the world and through collections of most relevant literature. Thus, the Center, by reason of its core area, will be internationally renowned because of its research contributions to the literature and the development of new devices for patients.

Investigators of a core area will be continually responsive to the needs of patients in that field, both in documenting the nature and extent of these needs and in setting priorities for their own efforts to meet these needs, and they will stay abreast of the state of the art of their field so that their own efforts will avoid duplication and be focussed on the most cost/effective projects. It is implicit that the majority of the Center budget will be allocated to its core area.

Examples of core areas found in the Rehabilitation Engineering Centers in the United States and in the three collaborating Centers in Yugoslavia, Egypt and Poland are Functional Electrical Stimulation, Effect of Pressure on Soft Tissues, Prosthetic Joint Implants, Sensory Feedback Systems for Control and Communication, Neuromuscular System Disabilities, Environmental Controls for Spinal Injured Patients, Mobility Aids, Sensory Aids for the Blind and Deaf, Architectural Barriers, Biofeedback Therapy, Skeletal Attachments, Automotive Adaptative Equipment and Vocational/Industrial Adaptations.

It is conceivable that a Center may develop two or more Core Areas when because of its past experience, unique professional staff and patient populations, it can support a second or third group which reaches a position of international leadership. The central issue is one of resource utilisation and critical mass required in each group to become truly professionally excellent. The creation of a new Core Area should be undertaken with great caution when resources are limited. But a strong group deriving support from additional sources may synergistically enhance a Center's overall effectiveness in becoming the nucleus of a secondary Core Area without jeopardising its primary functions.

How do we know how many persons are disabled and in need of rehabilitation engineering services?

Estimating the incidence and prevalence of disability is a precarious enterprise that plagues all planners, researchers and others responsible or interested in this type of activity. There is no definitive data in the U.S. that one can point to with absolute assurance that it truly reflects the incidence or prevalence of disability in all, or any categorical disability grouping.

There are sources, however, that provide sufficient information to give us a fairly good appreciation of the magnitude of the disability problem in most areas of concern, and are helpful in determining future research and programme activities. We have developed a compendium of such data obtained primarily from the following: (1)

the National Center for Health Statistics Series on Disability; (2) Comprehensive Needs Study, Urban Institute; (3) a paper prepared by Dr. E. E. Harris, Dr. Gustav F. Haas, and Mr. Peter J. Nelson in March 1975, for Dr. Frank W. Clippinger, Jr., Chairman of the Committee on Prosthetics, Research and Development: (4) 1970 Census Data: and (5) Especially expert estimates from the series of State of the Art Workshops on rehabilitation engineering conducted primarily during 1976-77. International studies in the United Kingdom and Denmark were also utilized to verify U.S. Data.

It should be noted that the information base is mostly from the 1966 through 1972 period, since the major portion of the original data was generated during that time frame.

Only total figures were obtained for the institutionally disabled, since very little is known about them except that they are primarily elderly, chronically ill and a large majority of the younger people in this population group are mentally ill or mentally retarded. It is estimated that about 1.8 million people are in this category.

Data on individual disability categories is limited primarily to those individuals who would need rehabilitation engineering services, such as a sensory aid or other prosthesis or procedure.

It is interesting to note that the United Kingdom statistics on patients with locomotion, reported by Dr. E. E. Harris in 1975, compare quite favourably, when adjusted, to the population base of disabled reported in the National Center for Health Statistics Reports.

For purposes of this report, the Comprehensive Needs Study definition of impairment, disability and handicap was utilised. An impairment is considered to be the residual limitation experienced by an individual resulting from a congenital defect, disease, or injury. A disability is defined as the inability to perform some key life function, and handicap is considered to be the interaction of a person's disability with the environment to impose impediments to the individual's goals for travel, work or other activities of daily living.

Even though judgemental, an attempt was made in the Comprehensive Needs Study to classify the numbers of severely disabled individuals in the United States, as follows:

Under age 18	...	180,000
18 through 64	...	4,200,000
65 and over	...	3,900,000
Institutional population	...	1,787,000
Total U.S. population with most severe handicaps		10,067,000

Based on all studies reviewed on disability, it is estimated that between 20 and 25 million individuals presently have a neuromuscular, musculoskeletal or sensory disability that could benefit from rehabilitation engineering services. This estimate is a midpoint between the low figure of the "so called" severely handicapped and the high figure of about 35 million for all disabled.

Additionally, we do have some data estimates on the costs of disability provided by the aforementioned Comprehensive Service Needs Study as well as examples from some of the State of the Art Workshops in Rehabilitation Engineering sponsored by the RSA and VA during 1975-76. These cost estimates are as follows:

1. Estimated expenditures by government agencies in 1973. Includes approximately 10 million classified as severely disabled and averages to about $ 2,000 per person. (Urban Institute, Comprehensive Service Needs Study, 1976) $21.5 billion
2. Estimated earning losses from long-term disability in 1973 wages $33.2 billon
3. Patient costs for failed implants estimated in 1976 (State of the Art Workshop on International Joint Replacement, 1976) $80 million
4. Estimated Cost of Pressure Sore Management (State of the Art Workshop on Internal Joint Replacement, 1976) $440 million

I have with me a few copies of statistical tables which specify disability by types and identify the estimated population affected. I will leave those with the conference Chairman, who will, I am sure, be pleased to see that sufficient copies are reproduced for all who wish them.

I would now like to give you some brief examples of some of the kinds of research and development work supported under our programme in the United States:

1. Northwestern University: One of the primary missions of the Rehabilitation Engineering Programme at Northwestern University concerns the replacement of damaged or diseased joints with artificial components. Thousands of disabled people each year regain use of their extremities through the surgical replacement of hips, knees, and other joints. Despite the success of these man-made joints, they are not perfect. Consequently considerable scientific and engineering effort is being expended to improve the materials, designs, and the techniques or implantation of these prostheses.

The northwestern effort in this field is divided into four main areas. These are a study of current successes and failures of implants with emphasis on the knee prosthesis; the design and development of devices and techniques to

solve identified problems; the identification of material problems and their possible solutions; and a basic study of how joints function, with special emphasis on the supporting structures that contributes to stability or instability.

2. Moss Rehabilitation Hospital: Signals from strain-gauges attached to a platform on which a person stands are processed to form a vertical line on a cathode ray tube. The vertical line, which represents the location of the weight-line in a given plane, is superimposed on the image of the person viewed through the lens of a camera. A photograph can be taken for a permanent record, or the arrangement can be used for visual observation under clinical conditions, such as alignment of an artificial leg or lower-limb orthosis.

A moulded, polypropylene ankle-foot orthosis, a development pioneered by the Moss Rehabilitation Hospital R.E.C., that has revolutionised the treatment of drop-foot and other foot-ankle impairments.

3. Harvard-M.I.T. Rehabilitation Center: The Harvard-M.I.T. Rehabilitation Engineering Center seeks to rehabilitate handicapped people by applying highly sophisticated engineering technology and theory. As part of the endeavour, the gait analysis laboratory at Children's Hospital Medical Center, has developed a system for acquisition, processing, and analysing the three major measurable parameters of gait: all limb segment motion, muscle group activity, and foot-floor, reaction forces. Using a PDP 11-10 minicomputer and incorporating technological advances and in-house development equipment, the system directly measures, or indirectly calculates, the biomechanical parameters of gait in real-time.

The forces, velocity, and displacement of the dynamic center of body mass in relations to each limb segment and the energy transfer between them is determined. With such objective measures, a better understanding of the neural control and complex dynamics of gait in the handicapped patient can be achieved and lead to the development of simple treatment programmes and uncomplicated assistive devices.

Presently, the laboratory is conducting a series of clinical research projects in children with cerebral palsy, myelomeningocele, and scoliosis to determine the pathophysiology and efficacy of various treatment programmes. A recently completed project on the pathodynamics of back-kneeing in children with cerebral palsy provided an understanding of its creation and the validity of the effectiveness of a simple, light-weight plastic fixed-angle below-knee orthosis in its correction. Although the research

phase may require highly sophisticated engineering technology and much collaborative engineering-medical work, its ultimate goal is to provide techniques and devices which can be implemented simply and easily in any medical community.

4. Texas Institute for Rehabilitation and Research: Decubitus ulcers (bed sores) are a frequent and costly complication for the spinal cord injured patient and, therefore, their prevention has become a major goal for clinicians working in rehabilitation of the severely disabled. The Pressure Evaluation Pad is a means of clinically evaluating and observing the effectiveness of pressure relief devices, or cushions, traditionally prescribed for patients with spinal cord injuries.

Through the use of pneumatically controlled transducers or contacts, bony and soft tissue pressure distribution is observed and recorded. By varying the air pressure in the evaluation pad and photographically recording which lights on the display box are illuminated in a sequence of pressures, we can construct a pressure contour map which ultimately enables us to individualize the cushion to the specific patient needs.

At this time, 37 patients have been evaluated on the pressure evaluation pad. It is anticipated that with system modification for durability and with its potential commercial availability, many more patients can benefit from its use.

5. Rancho Los Amigos Hospital: Many hemiplegic patients cannot walk because they can't support their body weight due to weak muscles which extend the knee and hip, ambulation can be increased. There is no surgical or bracing techniques to help these patients. Consequently, ambulation therapy programmes are postponed until the patient gains strength.

Electrical stimulation of the quadriceps, gluteus medius, and gluteus maximus during the stance phase of gait of some marginally ambulatory patients by means of a 3-channel stimulator has allowed ambulation at a level not possible without stimulation. (See Figure 1.) Besides serving as a functional device, it hastens the provision of normal therapy and provides a training effect in itself by strengthening muscles and facilitating the patients' own response through sensory feedback.

6. Smith Kettlewell Institute of Visual Sciences: In the area of vocational rehabilitation, the San Francisco Center has developed instruments allowing the blind to enter different vocational areas.

One modern electronic measurement instrument appears to have a wide variety of applications in vocational rehabilitation engineering for the totally blind. A combination of appropriately selected sending unit and linear variable differential transformer (LVDT) can provide a high precision and flexible instrument for measurement of physical changes of disaplacement, rotation, velocity, acceleration, and other forces. Sensor attachments for the LVDT instruments currently exist for force measurement, fluid measurement, accelerometers, linear and rotational velocity measurement, to name a few examples.

The output from this configuration is being used to provide a combination of auditory and actual readout for blind users. The operator turns a precision potentiometer control knob until an audible tone nulls. He then reads a tactual scale indicating the output level of the device. The tactual scale can be calibrated with Braille dots as precisely as the comparable visual display.

In one instance, the staff of the SFREC designed and constructed a displacement measuring instrument to replace the dial micrometer usually used by the sighted lathe operator. This instrument was used to center material placed in the lathe. As the lathe turned, an audible tone would waiver in pitch if the outer diameter of the material was not symmetrical.

Changes as small as 1/1000 of an inch could be detected with this device. It could be used for aligning the lathe for operation.

In another situation, sighted workers in a repair shop with a blind employee began using a pressure gauge that had been developed especially for the blind workers. They learned that they could listen to the varying tone without glancing away from their work to view a visual meter. Apparently, the use of modern sensing units and the LVDT will permit blind people to enter a variety of machine operator positions.

7. United Cerebral Palsy of Kansas: Employment is certainly a large part of activities of daily living. The Rehabilitation Engineering Center at Wichita, Kansas has a programme named, "Use of Technology to Improve Vocational Prospects of Severely Disabled." This REC has developed several adaptive jigs enabling handicapped people to use production machinery.

By the way, this REC has borrowed extensively on the Center Industries concept so beautifully developed here in Australia.

One of the operations at Center Industries Corporation in Kansas involved with the manufacture of spring compression struts is to form a bead on the outside of a small tube to act as a stop when the strut is fully assembled. The bead must be formed to exact tolerances, if it is too large then one tube will not slide freely inside the other, if it is too small the bead will not act as a stop and the strut will come apart when the spring is loaded.

The original machine utilised for the beading operation required that the machine operator use one hand to align the tube in place and the other hand to apply pressure to a clamp to rigidly hold the tube. With his, then free hand, he pulled a lever down which engaged the beading head. The length of time the operator engaged the beading head determined the dimensions of the bead.

The original machine sat on a table requiring the operator to perform in the standing position. The material handling support consisted of a large box on either side of the machine for input and output parts. The initial operation required an operator to have good strength and coordination in both hands and arms. A good range of motion was required and the ability to stand was mandatory. Also, very good hand — eye coordination and a sense of timing was required in order to gauge the size of the bead correctly. In other words, an above average, able bodied individual with extreme manual dexterity was required to perform this job.

The first step in adapting this operation for a disabled client was to instal air cylinders in place of the two operating levers and an electronic timer to control and adjust the length of time the beading head was engaged and, therefore, control the exact size of the head. This modification basically eliminated the two-hand operation.

The next step was the addition of a holding fixture which eliminated any positioning error in aligning the tube to be formed in relationship to the beading head. This fixture included a material stop which insured that the bead would always be the same distance from the tube. Also, incorporated into the design was a safety switch which blocked any machine operation until the tube was properly aligned in its cradle. A single air valve lever was added in order to control the whole sequence of the operation.

The final step was the construction of a new machine stand thus lowering the whole operation to wheelchair level. An enclined material handling bin was constructed to deliver one tube at a time to within a few inches of the positioning fixture.

A severe CP young man was trained to operate the improved machine. The original machine, with a skilled able-bodied worker, could bead approximately 900 tubes in an eight-hour day. With the modifications indicated, the severely involved CP operator, confined to an electric wheelchair and with very limited use of either hand, has produced 1,200 tubes in a single eight-hour day.

Of course, I could go on and on with examples, but in the interest of time, I will now try to wrap this up.

Although we are certain that much more remains to be done in the field we are calling Rehabilitation Engineering, we believe that the research and evaluation areas are pretty well on the road. We are further expecting to be able to establish a formalized graduate level training programme for Rehabilitation Engineers in three major universities in the United States next year.

A major problem we face at this time is the formulation of a major programme to attract private industry to produce the devices and systems developed so that they will be available in the commercial market to meet the needs of the handicapped.

Because of limited markets and the specialized nature of devices and systems required in Rehabilitation Engineering, private industry in many instances is reluctant to invest substantially in special tooling or manufacturing process to produce these items. We are currently working very closely with a major industrial foundation in the United States whose members represent industry broadly. The attempt here is to find a method for the stimulation of production and distribution of successful research items, which does not penalize industry while they produce the necessary systems in a cost beneficial way. Several methods are being investigated in-depth and we are hopeful that the result will be the availability of necessary equipment at reasonable cost which still allows a small profit to all involved in manufacturing and marketing.

As the methods developed are tried and evaluated, we will be sure to keep you advised of our progress and experiences.

Thank you for this opportunity to share our experiences in this important area with you. We sincerely appreciate your efforts and are particularly interested in full coordination and cooperation between our two countries in the further development of the field we call Rehabilitation Engineering.

NEED FOR BETTER EMPHASIS ON MODERN TECHNOLOGY IN EDUCATIONAL AND VOCATIONAL TRAINING OF THE HANDICAPPED

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Traces of nascent systems of education and training of children with sensory, physical or mental disabilities could be perceived in the years preceding the French Revolution. These were the years when human spirit was in ferment and the plight of the handicapped who were usually denied the light of education or the pride of occupation attracted considerable attention.

The initial efforts were directed at arousing the powers imminent in man to compensate for the loss of physical or sensory impairment. Indeed, so widely was this approach unquestioningly accepted that the doctrine of natural compensation, which was the outgrowth of this educational philosophy, received almost universal acceptance. Despite experimental contradiction, the belief in natural compensation is even today widely held.

We do not wish to enter here into the age-old polemics over natural compensation versus practice effects. However, what seems to have received scant attention is the compensation afforded by human ingenuity as manifested in modern technology.

How is the education of handicapped people different from that of non-handicapped children? This is a complex question with numerous possible answers. However, the main difference derives from the need to compensate for the losses of a disability. The most effective compensatory mechanisms have been the products of the application of science and technology to the education and rehabilitation of the handicapped.

The question of compensation in this field needs to be viewed from a different standpoint. It is not enough to draw out man's intrinsic powers and to acclaim the triumph of the human spirit. More concrete assistance must be provided in the shape of simple or sometimes sophisticated aids to take over some of the lost functions. This new approach to compensation needs to be adequately emphasised to improve the delivery of services to handicapped people.

Enunciation of the new philosophy of compensation is just the beginning. Like most scientific changes this seems to be the product of a co-operative endeavour of educators, engineers and consumers. Indeed, the entire process of educating, training and rehabilitating the handicapped is a co-operative venture of several allied disciplines.

To bring to the handicapped the fruits of modern education, science and technology, a consortium of specialists must dedicate itself to the goals of compensatory education and adaptive occupational training of the handicapped drawn upon the accumulated knowledge and experience of the physical and life sciences.

The Perspective

Formal education especially of handicapped children began as a post renaissance phenomenon in Europe. However, intense yearning for a better and easier existence marks his entire life from prehistoric times. Therefore, evidence of efforts to resolve problems arising from the impairment or loss of sensory or physical function can be witnessed throughout human history. Palaeontological studies will doubtless confirm the emergence of crude assistive devices through the Palaeolithic and Mesolithic ages.

The greatest beneficiaries of the application of science and technology to the resolution of problems of human impairment and the emergence of cybernetics have probably been the blind and the orthopaedically handicapped. This is understandable when one considers the fact that each eye has something like 130 million sensory receptors constituting about 95% of the information pathways going into the central nervous system. As compared with this, each ear has only about 35,000 highly specialised receptors.

The development of crude limb substitutes and other assistive devices is shrouded in the obscure veil of antiquity. The emergence of electronics has led to the development of some devices to help the deaf. On the other hand, deficits of the mentally retarded lie primarily in the

areas of integrative perception, cognition and learning which have as yet remained outside the frontiers of the spectacular technological advances of the present age, save that in recent years numerous studies are being undertaken especially at the Harvard University, using computers to test artificial intelligence. The object of these studies is to examine through analytic methods the processes of cognition and learning. The results of these studies which are a product of modern technology may lead to the birth of new teaching procedures for the mentally retarded.

Under the impulse of the widening use of electronics and the computer, applications of technology to problems of rehabilitation have soared to new heights. So bewildering is the diversity of aids now available to relieve the irksome limitations of even the most severe disabilities that it will be presumptuous to attempt to compress within the compass of this brief paper a review of modern aids and appliances for the handicapped. Yet no advocacy of the need to emphasise the importance of utilising modern technology in the education and training of the handicapped could be cogently made without giving the reader some glimpses of the miracles of modern technology. A conspectus will, therefore, be attempted with the object of arousing the interest and curiosity of the educator and trainer.

The Blind

Braille Production: Braille has successfully withstood the onslaught of the spoken word. The emergence of new techniques to bring about dramatic rise in reading speeds have given a new leaf of life to Braille. New ways are, therefore, being devised for faster production of Braille literature. The automated card operated transcribing machine for producing contracted Braille and the I.B.M. Braille Writer are the most notable examples of progress in this field. A most fascinating recent development initiated by the Federation for the Blind and the Physically Handicapped of the Library of Congress in Washington is a system whereby a blind person can either listen to a cassette or read it on a console on which Braille characters appear as the cassette plays.

A further development of far reaching importance is an electric typewriter which can be equipped with an electromagnetic system and with an interface which allows it to be commanded or to command directly the Braille recorder. Any typist with sight who need know nothing about Braille can then type a text normally on this typewriter. Each key struck will be recorded at the same time in Braille on the buffer memory of the Braille recorder.

Recorded speech: Although all perception is sequential, Braille lacks the holistic characteristics of print. As a consequence, Braille reading is usually much slower. Recorded tapes or discs are, therefore, fast replacing Braille for many purposes. Two different approaches are being tried out to increase output speeds on recorded tapes :—

(1) An attempt is being made to accelerate the output speed without raising pitch.
(2) To compress speech output in such a way as to dramatically raise speed.

Both approaches hold considerable promise.

Print reading: The dream of the blind to have access to the printed word is nearer realisation today than it ever was before. Though the Optacon has severe limitations, new approaches incorporated in the Kurzweil Optacon, which seeks to translate the printed word into spoken word, may open up new vistas of opportunities for the blind and the visually handicapped.

Mobility: One of the major limitations of blindness lies in the area of orientation and navigation. Orientation is essentially a mental process, involving body awareness, position awareness and the relationship between the body and wider space. It has remained outside the purview of gadgetry.

The most remarkable advances in the past decade or so have been by way of harnessing ultrasonic waves to the service of the blind. The sonic guide and the path-sounder are the most common aids which reflect beams of ultrasound to help the blind in sensing the environment. The laser cane is expected to form a similar function.

Education: Science and mathematics have been problem areas in the education of the blind. Here application of technology has been most fruitful. Apart from the traditional mathematical appliances, raised maps, adapted thermometers, barometers, hygrometers and so forth the most notable development in recent years has been the speaking calculator which seeks to open up the mysteries of mathematics to the attentive ears of the blind.

Industrial aids: A wide range of common industrial aids have been specially adapted for use by the blind. Instances are, an audible multimeter, a carpenter's level, a micrometer, a depth micrometer, a wood marking gauge, a six inch calibre gauge, a servo-assisted height gauge, an electronic level and an electronic compass with an audible

output, as well as a host of other similar aids. In the light engineering industry an audible indicating dial gauge is now in use, incorporating coloured light indicators for the partially sighted; it can be used by the blind inspector with facility to a tolerance of one half thousandth of an inch and with suitable mounting between ten thousandth of an inch. One of the most remarkable recent advances is the development of a light probe with a miniature computer to assist a blind operator in locating calls and determining their priority.

Examples of general aids:

(1) An electronic light indicator.

(2) An audible sound beacon to locate objects in space.

(3) A photo conductive light probe used for detecting the level of liquid in a container, the printed heading on an empty page and for a variety of other purpose.

The Deaf

Remarkable advances have been made in the last decade or two in developing instrumentation in the following areas concerning the hearing handicapped —

(1) Communication aids.

(2) Evaluation of hearing loss.

(3) Testing of hearing aids.

(4) Selective auditory filter amplifiers.

Communication aids: Some of the aids that have been developed include —

(1) An S-indicator.

(2) A speech training apparatus with a stroboscopic voice pitch indicator.

(3) A speech training apparatus with a pitch meter, stress trace indicator, and loudness meter.

(4) A ten-channel Kamplex vowel and consonant indicator.

(5) A spectrum indicator with a matrix of incandescent lamps.

(6) A fricative indicator.

(7) A visual s-indicator.

(8) An intonation indicator with oscilloscopic display.

(9) An intonation indicator with instrument display.

(10) A rhythm indicator.

(11) A nasalization indicator.

(12) Various visible speech translators and voice visualisers.

A recent development at the National Technical Institute for the Deaf, Rochester, New York is the VSTA which records and displays a speech parameter such as pitch or intensity on a television screen as a trace or line. As a trace appears on the television screen it enters on the right, passes across the screen and disappears off to the left. The rate at which the trace moves across the screen is selected by a switch. The trace continues to flow across the screen as long as the 'record' button is depressed. When that button is released, the last few seconds of the trace which are on the screen at that moment are 'frozen' on the screen. The choice of a television screen (and television refresh memory) as the basic display medium allows considerable flexibility in both the display format and the choice of display equipment. The instrument is presently equipped to display the following parameters as time varying functions :—

(1) Oral speech intensity.
(2) Pitch.
(3) The frequency of the principal resonance of voiceless sounds.
(4) Nasal intensity.
(5) Laryngeal intensity
(6) Respiration.
(7) Voiced/Voiceless distinctions.

Spectacular advances are also being made in developing telecommunication systems for the severely hearing impaired. Some of the aids include telegraph sounder, a flashing light system, a telephone code system and more recently the electrowriter, the TV phones and the picturephone.

Evaluation of hearing loss : Another area in which suitable instrumentation is being developed is electrophysiological audiometry. This is of particular value in the differential diagnosis of hearing loss among younger children. Changes in electrodermal and electroencephalic activity are utilised to detect the presence of hearing function.

Testing of hearing aids : A further important area of exploration is the development of instruments for testing hearing aids. Efforts might need to be made to develop the artificial ear in this country.

Selective auditory filter amplifiers : Most of the hearing aids available in our country are multifrequency aids. As is well known, many persons have islands of hearing in certain frequency ranges. The Institute for Experimental Phonetics and Speech Pathology, Belgrade has developed a selective auditory filter amplifier. People having a hearing loss in the high frequency ranges have difficulties in

perceiving fricatives. The s-indicator which is an additional instrument to the selective auditory filter amplifier indicates the acoustic energy of the friction characteristics for fricatives and S-s. In this way, it is possible for a hearing impaired person to control visually the degree of friction which is necessary for the formation of fricatives and some other sounds. In addition, this aid has devices for detecting visually frequency and intensity levels. Eight independent adjustable channels for different frequencies are also available.

The Orthopaedically Handicapped

Probably the most prolific and fruitful applications of modern technology have been concerned with the development of various assistive devices for the orthopaedically handicapped. The sheer diversity and sophistication of available devices defice brief description. A few illustrative devices are, however, being mentioned merely to indicate the extent of assistance that could be rendered to the most severely handicapped people.

Mobility : Wheeled chair is the most convenient and versatile mobility aid for the severely handicapped. Sweden has developed the permobile which, it is claimed, can move at a speed of about 10 miles and go over the most rugged terrain.

A new design of a wheeled chair developed in the United States is so structured as to permit an orthopaedically handicapped person to move over a toilet. Further a flap can be lowered permitting the person to use the toilet. To illustrate the application of simple technology, special rubber wheels have been designed in U.S.A. to maintain stability in fast motion.

At the Institute of Physical Medicine and Rehabilitation, New York University Medical Centre, a wheeled chair has been developed which responds to the client's voice. It is so computerised that the owner has merely to utter two words and the chair will obey the command. Indeed, even if a person cannot speak, the chair can be controlled by the client's breath. He has merely to suck or puff in order to move the chair.

Artificial limbs : One of the most sophisticated advances currently being made in this area is the development of a myo-electric hand. Using body electricity and some electronic controls, the patient can open and close the fingers on his own. He can also have a grip of four to five kilograms. At the present stage of development, however, the patient cannot rotate the wrist.

The New York University Medical Centre has also developed an ingenious above-knee prosthesis which can be attached by air pressure, eliminating the need for straps.

A transparent socket now under development at several places could go a long way towards detecting defective attachment of limbs. Transparent shoes perform a similar function for persons with deformed feet.

One of the most fascinating advances in the field is to implant a recording system in an artificial leg to measure the force needed during a whole day. This is likely to lead to substantial improvement in the design of artificial legs and the materials used.

Job development : Numerous adaptations to machines and simple equipment are being fabricated to assist persons with severe orthopaedic or neurological handicaps to enter new occupations. At the George Washington University, for example, a page turner enables a person with athetoid cerebral palsy to read with a comfort. A special gadget assists them in using the telephone. A helmet, giving an auditory output, provides a feedback for his head position.

At the Cerebral Palsy Foundation in Wichita, Kansas, USA, a person was so severely handicapped as a result of cerebral palsy in early childhood that he could just use his head effectively by designing a special helmet. With a suitable stylus he can use an electric typewriter and can type at a speed of about 24 words a minute.

Activities of daily living : Human ingenuity in developing aids to assist severely handicapped people seems to know no bounds. Environmental controls have been developed by which a severely handicapped person could, by the flick of a switch, operate almost any appliance at home. It could operate tape recorder, film or slide projector, toaster, electronic blanket, ripple bed, talking book, fan, page turner etc.

Simple but ingenious aids have been devised for the most ordinary activities of daily living like bathing. To illustrate :—

(i) A hair rinser made in a plastic material supports the head and neck when the hair is washed. The rinser has deep sides to prevent the water from wetting the bed clothes.

(ii) A water proof bath bench made from steel rod, with open mesh seat, completely plastic coated, is a convenient bathing aid for the severely handicapped.

Cerebral palsied children

Children with cerebral palsy have been lacking body control and have serious speech defects. The Trace Centre of the Wisconsin University in the United States has developed some excellent aids for the education of non-verbal children. An example is an autocom which has panel with numerals and letters of the roman alphabet. If a person with athetoid or spastic type of cerebral palsy touches any letter or numeral on the panel, it appears on a screen. In this way even a person who is totally deficient in fine movement can communicate with others. A small computer which is suitably programmed guides the electronic display on the screen.

Conclusion : The principal aim of rehabilitation is to help the handicapped individual function more effectively in his environment. The child must be helped to function better at school and the adult at home, at work and in the community. The glimpses of some modern aids provided here go to show how this aim can be achieved to a very large extent. Indeed, they bring out with irresistible force the fact that the modern process of rehabilitation is utterly inadequate without utilising the fruits of modern technology. The need for emphasising the increasing use of modern equipment in the education and training of the handicapped is, therefore, almost axiomatic.

But two formidable obstacles seem to retard progress in the field. First, considerable research is needed to develop equipment consistent with the level of industrial development in the country. Secondly, educators should be suitably trained.

The Government of India proposes shortly to establish a sensory aids department in one of the Institutes of Technology to undertake ongoing research in this field. The proposal National Institutes for the Handicapped would undertake the training of personnel. These contemplated steps would assist in remedying the prevailing situation.

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CHALLENGES POSED IN ECONOMIC REHABILITATION OF THE HANDICAPPED IN RURAL SETTING OF A DEVELOPING ECONOMY

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Introduction : The bulk of Asians live on the land and look to it as a means of livelihood; agriculture gives employment to almost two-thirds of the total labour force. To give some examples of the proportion of agricultural workers in the total labour force in Asian countries : Cambodia, 80 per cent; Indonesia, 68 per cent; Japan, 24 per cent; Republic of Korea, 54 per cent; Malaysia, 52 per cent. (Sabah, 80 per cent; Sarawak, 84 per cent); Nepal, 94 per cent; Pakistan, 75 per cent; Philippines, 57 per cent; Thailand, 82 per cent.

The end of the Second World War brought an accelerated change both in living standards and methods of production, particularly to urban communities. Rural communities are still fairly stable, but the signs of change are apparent everywhere. It is against this pattern of a changing society that the present and future rehabilitation problems must be considered. Although the stages of development and the scope of rehabilitation programmes differ from one country to another, there seem to be some common problems and challenges associated with the rehabilitation of disabled persons in rural areas. These are :

(i) Difficulties in disability preventive measures;
(ii) The attitudes of the disabled, his family and the community;
(iii) Under employment of rural manpower;
(iv) Lack of adequate facilities of rehabilitation and supporting services;
(v) Need for government support.

This paper will discuss each of these points briefly.

Difficulties in Disability Preventive Measures: Although there is no statistical evidence to prove on an international basis that the accident rate for agricultural workers is higher than for workers in other branches of economy, in many countries the number of agricultural accidents is growing in direct proportion to the increase in the use of agricultural machinery.

Use of agricultural machinery usually involves movement — tractors, combines, movers, reapers, etc. This is not true of industrial machinery, which is mostly stationary. External working conditions in agriculture are more changeable than in industry; the dust content of the atmosphere may rise or fall, the air temperature may rise or fall; changes may occur even in the course of one working day. The fatigue factor in agriculture, where the working day is not so regular, is also of greater importance than in industry. These unfavourable working conditions high temperatures, an over-dusty atmosphere, and excessive working hours coupled with fatigue can all contribute to occurrence of accidents.

Industry engages safety officials and conducts safety campaigns. In rural areas, however, medical and safety care is less frequently available through fellow helpers or immediate first aid and injuries occurring under these conditions often assume more serious proportions resulting in many disabilities.

The basic general task in the field of accident prevention is extensive education in the proper handling of machines and the observance of safety measures. Training is another important factor in controlling agricultural occupational hazards. However such education and training programmes must be specifically related to rural features in each country.

Attitudes of the disabled, his family and the community: In most parts of rural communities, particularly in Asian countries, economic and social life is largely based on the conventional type of village economy. Community relations are still governed by closed family and kinship groups, and some of the traditions and attitudes of these groups tend to restrict social and economic advancement. There is resistance to change.

In some areas there is a deep religious obligation on the family to provide for and protect their own afflicted and handicapped members often by keeping them in sheltered idleness. By tradition, some disabled believe themselves unable to work and tend to depend on their families and communities who accept responsibilities for them. This dependence becomes a traditional form of relief.

Another false attitude adopted in some rural communities is a feeling that the employment of the disabled is not a necessity; they often are not aware of the economic manpower needs of the country as a whole and feel that the disabled population is a liability for the state to compensate and maintain. Such compensation as relief or disability payments assumes much more importance to some disabled persons than the reward from competitively earned wages. This attitude interferes seriously with motivation to accept rehabilitation and employment opportunities.

There is every indication, however, that these old rural patterns and attitudes are beginning to change. Our task is to eradicate these misconceived ideas from rural communities and to convince the individual disabled as well as his family and community leaders of the importance of ensuring individual well-being through useful employment.

Underemployment of manpower: The under-utilisation of agricultural manpower appears to be a major problem which affects, in various degrees, many countries and areas at different stages of development. Because of such factors as the seasonal nature farming, the shortage of capital, inefficient organisation of work, farming provides the workers with full time work only for the relatively short periods of cultivation and harvesting. One of the most spectacular consequences of agricultural underemployment is the large number of rural workers constantly on the move in search of better employment elsewhere. This fact is no less applicable when we refer to the disabled population.

There is a significant difference in services provided for urban communities and those for rural areas. Running water and electricity are desired by all, better health services, better education, wage-earning opportunities, improved social conditions, amusements and better housing — all help to encourage the movement of population from rural to urban areas.

The transfer of the rural disabled to cities away from their own communities is not generally encouraged as it often means changes in customs, in modes of life, sometimes in language ad most important of all, it can also mean the breaking of family ties. In addition, with a general movement of non-disabled workers, disabled people find more difficulty in achieving resettlement because of keen competition with non-disabled workers, who themselves often find great difficulty in securing employment.

For disabled persons, however, it is not always easy to find work on the land itself because most of the work is too

heavy, too strenuous, and too variable, besides which it involves exposure to unfavourable weather. This is particularly true in so far as those with leg amputation and those with an organic defect of the heart, the lungs or the gastric system are concerned. Although employment possibilities for the disabled in rural occupations are still limited, as specialisation in rural industry is developed; more resettlement opportunities will be open to them; for instance, in sorting and packing work or inspector at vegetable and fruit auctions, poultry farming, chicken sex determiner, repairing and upkeeping of farm equipment, sampler at a milk plant, administrative work in co-operatives, fertiliser and cattle food dealers, simple carpentry, tailoring, building and many other avenues generally speaking, wherever work is less heavy in character. Even persons with hand injuries may, after training and perhaps with simple adjustments to tools or equipment, be able to perform worthwhile jobs in the operation of agricultural machinery.

Lack of Adequate Facilities of Rehabilitation and Supporting Services: In many countries, the rural communities do not enjoy the same social, health and welfare facilities as the urban areas do. A general lack of health planning and medical services in rural areas often results in the fact that the major disabilities are usually of long standing. In many cases, years have elapsed before referrals have been made to rehabilitation programmes. These delays have added more difficulties to the physical restoration as well as to subsequent resettlement problems. The benefits of health planning, prevention of accidents and illness and medical care services should be made available to the rural population possibly through organised mobile health programmes etc.

Another distinctive feature of agricultural poverty is the general lack of educational facilities and the high degree of illiteracy. Rural people are usually outside the stream of new information and learning opportunities and this is even more true among the rural disabled population. It is found in some countries that disabled persons cannot be admitted to vocational training course for the able-bodied, not because of their physical limitations but due to the fact that they do not meet the basic academic or educational requirements for the courses. Lack of transport facilities in rural areas also makes it difficult and sometimes impossible for rehabilitatees and workers to travel to and from rehabilitation service in these areas should provide transport facilities for disabled persons possibly through the organisation of a special coach service, etc.

The success and effectiveness of any organised programme depends upon the people who work in the program-

me. The serious shortage which exists, especially in underdeveloped rural areas, in all categories of health, education, Labour and Welfare personnel, and particularly the lack of trained workers to serve disabled persons, presents one of the greatest obstacles to the organisation and expansion of rural rehabilitation programmes.

Need for Government Support : Today, the rural communities in many Asian countries are wearing a new look — primitive methods are giving way to modern techniques; numerous development schemes are being introduced and established in the expansion of farming practices, development of agricultural co-operatives, improvement of livestock and rural smallscale industries. So extensive are these development schemes that hundreds of job opportunities are now available to able bodied rural workers.

Unfortunately, however, rehabilitation schemes for the rural disabled do not always receive such a high degree of government support. Traditional patterns of family care and pioneering efforts of voluntary groups are still making a major contribution to the welfare of disabled rural populations.

From identification to recruitment, and from recruitment to resettlement, all difficult problems associated with rural rehabilitation of the individual disabled should ideally be transferred from family responsibility to local authority level. These could then be carried further to government level to pave the way for a successful national programme of rural rehabilitation.

Once Governments have recognised that action should be taken to resolve rural problems in rehabilitation, they should give leadership and backing to the programme and seek to set up a co-ordinated and integrated programme which could be fitted into the framework of the economy and the rural development programme of the country concerned. In particular they should ensure the most important element—regular and adequate budgetary support.

Conclusion : In conclusion, I must say that the problems described in this paper present a firm challenge. By their very size and complexity they may seem insoluble but with adequate courage, planning and foresight, they can be effectively tackled.

The I.L.O., with its world-wide responsibility for vocational rehabilitation has direct interest in the problems of the rural disabled. In close co-operation with other United Nations agencies and their member States, together with national and international non-government organisations, the I.L.O. has been working and will continue to work in

this field, to ensure that the rural disabled take their rightful place in the community. Some examples of rural rehabilitation programmes for the disabled are described in the Annex to this paper.

ANNEX

EXAMPLES OF VOCATIONAL REHABILITATION PROGRAMMES FOR THE DISABLED IN RURAL AREAS

GHANA

In Ghana', about 75% of the population live in the rural areas. For the rural disabled person there are at the moment four rural rehabilitation units located at Ho in the Volta region, Edwenase in the Ashanti region, Tamale in the Northern region and Bolgatanga in the upper region with an overall total enrolment roughly of 120, consisting of some 50 blind and the rest deaf, amputees and other physically disabled persons.

The training courses given at the rural units are designed firstly to assist the disabled candidates to achieve the necessary psychological climate by which they will accept their own disability. The acceptance of disability is considered as a prerequisite through which the physically handicapped may learn to recognise not only their handicapped condition but also along with it discover their innate potential which may be cultivated and developed in relation to the type of jobs for which they may subsequently acquire the skills through which to earn a living.

Secondly, the training given encourages the disabled and those in charge of training to make relevant assessment of individual abilities.

Progressively, the trainees are introduced to the trades which are later to earn them a living. These include the recognition of tools and how to handle them. In quite a number of cases it becomes necessary to teach the disabled how they may use caliners and crutches and they are given courses in callisthenics to strengthen their bodies were appropriate.

In the training centres therefore, quite apart from preparing the disabled to acquire skills which may be of economic value to them, attention is paid simultaneously to their physical needs in order to improve their gait, mobility, endurance and the general tone of their bodies.

The pattern which has emerged has suggested that the training should aim at producing a village "all-rounder" rather than a specialist in a single rural craft. Intensive

training is therefore given in crop growing, subsistence and cash crop, rural house building and rural crafts such as masonry, carpentry, poultry, tailoring, carving, textile weaving and leather work. A village man who is sufficiently versatile to turn to other skills is in a better position to support himself if demand fails in one direction. Within the limits of his disability therefore each trainee is encouraged to learn three or four trades. The training should enable him to feed and clothe himself, to sandal his feet and to give him some skill in basketry, wood carving, and thus be able to maintain himself and sell his surplus.

There is no set time limit to the course although training in the rural unit may not be shorter than six months. The courses are at present open to men only, but as soon as accommodation is available they will be extended to provide for women. Rehabilities attending the courses are given full board and lodging and pocket money of Rs. 15 a month. They are also provided with basic tools to start them in life at the end of the training. The difficulties that have so far been experiences have been with the marketing of the finished article which other able-bodied villagers also produce, but suggested methods of solution have been to provide central stores for sale of articles produced by the trained disabled worker.

Since the schemes' inception, the four rural units have turned out several hundred trainees whose training has varied between six to nine months. As far as may be ascertained the ex-trainees are doing well in the jobs in which they trained, write follow-up action organised by the Rehabilitation Section has ensured that trainees have sufficient supplies of raw material and tools, and that they are making adequate social adjustment to facilitate their rehabilitation.

1. Extracts from the report of Mr. Charles C. Wartemberg, Disablement Resettlement Officer, Ministry of Labour, presented at the I.L.O. Inter-Regional Study Tour on Vocational Rehabilitation of the Disabled, Denmark, 17 July — 5 August, 1967.

ZAMBIA

In Zambia, reorganisation of the farm settlement schemes for the disabled which have been unproductive for many years mainly due to the lack of incentive, problems of management and poor marketing facilities in rural areas, is underway. Under the old system the schemes were regarded more or less as welfare services and disabled farm labourers were employed and paid by the Council of the Handicapped at the minimum wage rate of 18 kwacha per month, regardless of their productivity. Consequently the Council was unable to find extra funds for

the expansion of more rehabilitation facilities because government grants, which form the major part of the Council's revenue, had been used for running expenses of the schemes.

The Council has recently embarked on new farming resettlement schemes based on family unit. The family resettlement policy, as opposed to the old practice, is an economically self-reliant pattern under which the disabled family settler is able to earn a living by producing their own cash crops on a free-of-charge, prepared and chemically fertilised piece of land. Farming materials, mechanical and manual implements, irrigation equipment, transport facilities and housing are provided free of charge by the Council for the Handicapped. A monthly subsistence allowance of 18 kwacha for the first 6 months is payable to the settler. Motivation for higher productivity is expected to rise since the earnings of each settler is directly related to his productivity, instead of the former scheme where the income of a settler was fixed and paid by the Council.

To give one example, the family resettlement scheme at Kambowa (Central Zambia) was first introduced in February 1974 with 16 families who volunteered to experiment with the scheme. In July three more families joined the scheme on their own accord. Although all the 19 settlers were not equally successful in so far as revenue was concerned, they were generally happy about their working progress and by the end of 1974, 14 of the 19 settlers had qualified for exclusion from the payroll.

The success of a family resettlement scheme would depend upon the efficiency of the capital employed, resourcefulness of the field management and readiness on the part of the settlers themselves to work hard.

TANZANIA

In Tanzania, today nearly 65% of the population (9 million people) live in 7,000 Ujamaa (socialist co-operative) villages. Disabled people trained in specific or allround rural trade skill, e.g. horticulture, tobacco growing, cotton farming, poultry keeping, rural carpentry, home tailoring, rural handicrafts, etc. can also join an Ujamaa village to contribute towards economic expansion of the village as well as their own welfare in self-reliance. Under this setting a disabled person takes part in normal village activities with his trained skills. The disabled man may turn his hand, along with other disabled workers and/or able-bodied members of the village, to the growing of crops, to raising chickens, to making clothes, to making furniture and agricultural implements and tools,

to making shoes, sandals, baskets, etc. for the village. His work is a positive contribution to the Ujamaa village where everybody performs his work as part of division of labour.

Another recent development in Tanzania is the establishment of rural co-operative resettlement schemes for the disabled workers and their families. Two experimental schemes are being established and developed. Semi-local houses have been built on a self-help basis to accommodate all workers and their families at the settlements. Each family unit is given an individual piece of land to cultivate for subsistence crops, but all the workers are expected to work together at a communal shamba for cash crops, buy raw materials together, sell products together, but live separately at their individual homes.

The co-operative farm scheme for the disabled has the advantage not only of providing work for the disabled in rural areas in their own environment, but also gives them the opportunity of organising themselves and helping them to develop initiative and acquire some experience of farm management.

KENYA

In Kenya, a woolcraft workshop was established at Nyandarua in 1973 to each the disabled trainees how to earn a living from wool processing. The workshop has accommodation for 28 trainees and they are divided into four groups, each of seven people, who work together in hand-carding, spinning, washing, dyeing, knitting and weaving (cloth, ponchose, scarves, ties, etc.) and making tufted carpets. A group of seven is considered to be an economically viable resettlement unit which could be formed into a cottage industry and reach self-dependence by working together. Such groups can be taught to live and work together to eradicate weakness in personal or working behaviour, to make an adequate contribution to the group and develop a sense of responsibility towards it. The blind worker can be taught spinning, twisting and washing by the feel of the wool. He can be taught to overcome colour selection in weaving by laying out his coloured wools always in the same order.

A numbering system for the colours, with the number of knots tied into the woven thread, would indicate the colour to use. Some polio crawlers may not be able to treadle a spinning wheel but can participate in most of the other process. Double amputees of the lower limbs will be fully able to card, wash, dye, weave and do tufting of carpets. Arm amputees, whether right or left,

are capable of carpet making, using a loop needle. Some hemiplegics will be able to spin and carry out several of the other operations. Individually the members of the group should be encouraged to develop those aspects of the operation at which they are most suitable. This is a unique form of group resettlement for individuals who are trained in skills which need assistance of others to complete a given product.

ASIA

Integration of the blind into the normal society, whether through the employment of the adult blind or through the integration of the blind school age child, has been somewhat slower in the developing countries of Asia[1] than in other parts of the world. 80 per cent of the total population in many Asian countries lives in rural areas and comparable percentage of the blind people also reside in rural areas. The schemes and programmes which provide specialised services required by the blind being almost always located in the cities of the rural blind has been neither very popular nor very effective in Asia. One large-scale rural training institution established more than 15 years ago and another smaller programme set up more recently are located in India. Four or five small centres have been established in other Asian countries. This is the total development in this approach to providing services to the rural blind in Asia today.

Some of the factors which need to be considered when planning programmes for the rural blind in Asia are —

—The rural institutional centres are expensive to establish and maintain while they serve only a small percentage of the rural blind population.

—In rural areas throughout many Asian countries (certainly India is a good example), the extended family system is the socially and culturally accepted pattern of life. No individual person, sighted or blind, is totally independent in himself. Rehabilitation services which attempt to make the blind person an independent worker, farmer or crafts-men break down when the individual returns to his place in the extended family.

—The removal of a blind individual for a year or two from this extended family more often than not breaks the ties or, at the very least, weakens the family's sense of responsibility to the blind individual, which many years of living together has established.

1. Extracts from the paper entitled "The Rehabilitation of the Rural Blind — a Plan for the delivery of service" by R. C. Jackie, Director, Rehabilitation American Foundation for Overseas Blind, presented at the ILO/DANIDA Asian Regional Seminar on Vocational Rehabilitation of the Blind and the Deaf, Hong Kong, 1-17 Dec., '76.

—Blindness is occurring at every age level. The majority of these individuals become blind as adults and therefore have excellent usable visual memory. Throughout their lives as sighted persons they have established their work patterns; they have developed skills marketable within their villages; they are totally familiar with their environment; and they understand what is expected of them within their family and community. This experience and the visual memory is particularly relevant in rural Asia.

—Because blindness is occurring at every age level the needs of the rural blind in terms of services vary greatly. What is needed is a client-oriented approach serving the rural blind similar to that advocated for the urban blind.

In a rehabilitation scheme, it should be clearly understood that the principal objective of the training is not vocational agricultural careers such as animal husbandry, poultry rearing, the dairy business and so forth cannot be delivered to the blind in rural areas by itinerant field staff. What is brought to the blind villager is training in all the skills required for the villager to participate fully in and contribute to the extended family household and to his community.

Wage-earning activities, vocational opportunities and so forth which are included in a programme must be determined on the basis of the opportunities available in the area, district or region which would have been available to an individual whether he is sighted or blind. Vocational or employment opportunities in the villages must therefore be based not on "Career" selection but rather on what this individual was doing to earn a living before blindness or what wage-earning activity he might have performed if he was sighted.

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